ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 : PRELIMINARY AND				
		GENERAL (MECHANICAL WORKS)				
1.1		**BILL 1.1 - FIXED CHARGE ITEMS**				
1.1.1		Contractual Requirements, sureties, insurance etc	Sum	1		
		Establishment of Facilities on the Site :				
	PS 4.7	**Facilities for Engineer**				
1.1.2	PS 4.7	a. Nameboards as per Drg. No. 30300141/007	No	2		
	PS 4.9	**Facilities for Contractor**				
1.1.3		a. Offices and storage sheds	Sum	1		
1.1.4		b. Workshops	Sum	1		
1.1.5		c. Laboratories	Sum	1		
1.1.6	PS 4.16	d. Living accommodation	Sum	1		
1.1.7	PS 4.10	e. Ablution and latrine facilities	Sum	1		
1.1.8		f. Tools and equipment	Sum	1		
1.1.9		g. Water supplies, electric power and ' communications	Sum	1		
1.1.10		h. Dealing with water	Sum	1		
1.1.11		i. Access	Sum	1		
		j. Plant	Sum	1		
1.1.12		1. Craneage	Sum	1		
1.1.13		2. Other Plant (designate)	Sum	1		
1.1.14		Other fixed charge obligations	Sum	1		
1.1.15		Removal of Engineer's and Contractor's Site Establishment on completion	Sum	1		
1.1.16	PS 5	Quality Control Plan	Sum	1		
1.1.17	PS 7	Compliance with the Occupational Health and Safety Act and Specification	Sum	1		
1.1.18	PS 8	Compliance with the Environmental Management Plan	Sum	1		
1.1.19	PS 5	Liaison with Authorities, opportunities to, and co operate with others on site	Sum	1		
1.2		**BILL 1.2 - TIME-RELATED CHARGES**				
1.2.1		Contractual Requirements, sureties, insurance etc	Sum	1		
		Operation and Maintenance of Facilities on Site, for Duration of Construction, except where otherwise stated:				
		Facilities for Engineer				
1.2.2	PS 4.7	a. Nameboards (2 off)	Sum	1		
	PS 4.7	**Facilities for Contractor**				
1.2.3	PS 4.9	a. Offices and storage sheds	Sum	1		
1.2.4		b. Workshops	Sum	1		
1.2.5		c. Laboratories	Sum	1		
1.2.6		d. Living accommodation	Sum	1		
1.2.7		e. Ablution and latrine facilities	Sum	1		
1.2.8		f. Tools and equipment	Sum	1		
1.2.9		g. Water supplies, electric power and ' communications	Sum	1		
1.2.10		i. Dealing with water	Sum	1		
1.2.11		j. Access	Sum	1		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD					
		k. Plant	Sum	1		
1.2.12		1. Craneage	Sum	1		
1.2.13		2. Other Plant (designate)	Sum	1		
1.2.14	PS 5	Supervision for Duration of Construction	Sum	1		
1.2.15	PS 5	Company and Head Office Overhead Costs for the Duration of the Contract	Sum	1		
1.2.16	PS 5	Planning and programming	Sum	1		
1.2.17	PS 5	Quality Control Plan & Compliance thereof	Sum	1		
1.2.18	PS 7	Compliance with the Occupational Health and Safety Act and Specification	Sum	1		
1.2.19	PS 8	Compliance with the Environmental Management Plan	Sum	1		
1.2.20	PS 5	Liaison with Authorities, opportunities to and co operate with others on site	Sum	1		
1.3		**BILL 1.3 - OTHER GENERAL ITEMS**				
1.3.1	PS 6.5	Compulsory postponement of the issuing of Certificate of Completion	Rate/day	60		
1.3.2	PS 5.7.3	Servicing visits during maintenance period (Provisional)	No	4		
1.3.3	PS 6.8	Provision of complete Operation Manual as	Sum	1		
1.3.4		specified				
1.3.5	PS 6.9.3	Workmen's Compensation ACT (application)	Sum	1		
1.3.6	PS 9.1	Maintenance of the complete mechanical works supplied under this contract	Rate/month	12		
1.3.7	PS 5.7	Training of operating and maintenance staff	Sum	1		
1.4		**BILL 1.4 - PROVISIONAL SUMS**				
		For work to be executed by Contractor and valued in terms of the "Valuation of Variations" clause in the Conditions of Contract				
1.4.1	PS 6.13	Employment of CLO	PC sum	24	15000.00	360,000.00
1.4.2		Overheads, Charges and profit on items 1.4.1 above	%			
1.4.3	PS 6.2	Armed Security	PC Sum	1		300,000.00
1.4.2		Overheads, Charges and profit on items 1.4.3 above	%			
		For work to be done by as instructed by the engineer.				
1.4.3	PS 6.7	Tools and Spares	ProvSum	1		350,000.00
1.4.4	PS 4.8	Facilities for the Engineer	ProvSum	1		250,000.00
1.4.5	PS 5.7	Control tests by the Engineer	ProvSum	1		125,000.00
1.4.6	PS 4.8	Time related cost for the facilities for the Engineer	ProvSum	1		150,000.00
1.4.7	PS 6,4	Additional meetings	ProvSum	1		60,000.00
1.4.8		Training of local labour	Prov.Sum	1		125,000.00
1.4.9		Surveys	Prov.Sum	1		125,000.00
1.4.10		Overheads, Charges and profit on items 1.4.3 to 1.4.8 above	%		1185000.00	
1.5		**BILL 1.5 - DAYWORK**				
1.5.1		a) Foreman	hr	100		
1.5.2		b) Skilled	hr	150		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD					
1.5.3		c) Semi-skilled	hr	200		
1.5.4		d) Unskilled	hr	200		
1.5.5		e) Surveyor with transport, instruments and labour		50		
		Plant/Equipment				
1.5.6		a) Cranage (50 tons)	hr	80		
1.5.7		b) Front loader (CAT 930 [75 kW] or similar)	hr	50		
		c) Tip truck:				
1.5.8		1) 10m³	hr	50		
1.5.9		2) 6m³	hr	50		
		d) Backactor:				
1.5.10		1) 100 kW, 23 ton	hr	50		
1.5.11		2) TLB	hr	50		
		e) Compactors:				
1.5.12		1) Vibrating roller (Bomag 60 or similar)	hr	50		
1.5.13		2) Plate compactor	hr	50		
1.5.14		3) Rammer	hr	50		
1.5.15		f) Pneumatic Roller	hr	50		
1.5.16		g) Generator and Breaker	hr	50		
1.5.17		h) Other (Tenderer to specify)……	hr	75		
		Materials:				
1.5.18		a) Supplied by the Contractor under Dayworks	ProvSum	1	250000.00	250,000.00
1.5.19		b) Contractor's stated commission on the 1.4.23 provisional sum above	%	1		
1.6		**BILL 1.6 - TEMPORARY WORKS**				
1.6.1		Main Access Road to Works	Sum	1		
1.6.2		Dealing with Traffic	Sum	1		
		Existing Services				
1.6.3		c) Excavation by hand to expose existing services in all types of materials	m³	100		
1.7		**BILL 1.7 FOREIGN EXCHANGE**				
1.7.1	PS 6.6	In respect of the total value of imported content of goods used in the treatment works Allow a Provisional Sum to cover variation in exchange rate prior to obtaining foward cover				
1.7.2	PS 6.6	Tenderer is to insert an amount = 10% of the above amount from Item 1.7.1	Sum	1		
1.7.3	PS 6.6	Allowance as a percentage of the PC value of Items under 1.7.2 for Contractor's cost and profit. Tenderer to insert sum rate and state percentage.	%			
		BILL 1.8 SMME'S				
1.8.1		Allowance for sourcing, appointing and handling work done by approved SMME'S. This must include Contractor's Overheads, Charges and profit.	Sum	1		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD					
		BILL 1.9 EMPTYING OF WATER FROM STRUCTURES				
1.9.1		Allowance for emptying and disposing of water from all structures, tanks, chambers and sumps for mechanical and electrical equipment installation	Sum	1		
	TOTAL CARRIED TO SUMMARY					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 2 : DESIGN, SUPPLY AND DELIVERY OF MECHANICAL EQUIPMENT FOR AERATORS.				
M 2.1	**PS 9.2.4**	**Design, Manufacture and Delivery of equipment for the mechancial aerators including baffles as required** **In accordance with the Specification and drawings**				
M 2.1.1	PS 9.2.4	Zone I - 110 kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	3		
M 2.1.2	PS 9.2.4	Zone 2 - 110 kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	2		
M 2.1.2A	PS 9.2.4	Zone 2 - 90 kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	2		
M 2.1.3	PS 9.2.4	Zone 3 - 90 kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	2		
M 2.1.4	PS 9.2.4	Zone 3 - 75 kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	1		
M 2.1.5	PS 9.2.4	Zone 4 - 22kW mechanical surface aerators complete including aerator cone, drive shaft, slow speed coupling, gearbox, mounting plate, jacking screws, high speed coupling, baffles and electric motor in accordance with the specification and drawings.	No	3		
M 2.1.6	PS 9.2.4	Portable steel frame for maintenance of the aerators complete as specified	No	1		
M 2.1.7		Recommended spares	PC sum	1		650,000.00
M 2.1.8		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 2.2	**PS 9.2.4**	**Installation, testing and commissioning of equipment for the Mechanical aerators** **In accordance with the Specification and drawings.**				
M 2.2.1	PS 9.2.4	Complete 110 kW Aerators as supplied under item 2.1.1	No	3		
M 2.2.2	PS 9.2.4	Complete 110 kW Aerators as supplied under item 2.1.2	No	2		
M 2.2.3	PS 9.2.4	Complete 90 kW Aerators as supplied under item 2.1.2	No	2		
M 2.2.4	PS 9.2.4	Complete 90 kW Aerators as supplied under item 2.1.3	No	2		
M 2.2.5	PS 9.2.4	Complete 75 kW Aerators as supplied under item 2.1.4	No	1		
M 2.2.6	PS 9.2.4	Complete 22 kW Aerators as supplied under item 2.1.5	No	3		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD					
M 2.3		Cost for the conducting of insitu Oxygenation Efficiency tests as detailed in the general specification M06 - Mechanical Aeartion Equipment, if requested by the Engineer	PC sum	1		250,000.00
M 2.4		**CIVIL WORKS**				
M 2.4.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
2	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 3 : DESIGN, SUPPLY, DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE MIXERS				
M 3.1	**PS 9.3.4**	**Design, Manufacture and deliver Mechanical equipment for the Mixers In accordance with the Specificationand drawings**				
M 3.1.1	PS 9.3.4	Pre Anoxic Zone - 7.5 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor in accordance with the specification and drawings.	No	1		
M 3.1.2	PS 9.3.4	Anaerobic Zone - 7.5 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor in accordance with the specification and drawings.	No	4		
M 3.1.3	PS 9.3.4	Anoxic Zone - 11.0 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor in accordance with the specification and drawings.	No	4		
M 3.1.4	PS 9.3.4	Aeration Zone 3 - 15.0 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor in accordance with the specification and drawings.	No	1		
M 3.1.5	PS 9.3.4	Balancing Tank - 11.0 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor **including computer simulation modelling** of the mixer installation. in accordance with the specification and drawings.	No	6		
M 3.1.6	PS 9.3.4	Fermentation mixing Tank mixers - 7,5 kW mechanical surface mounted mixer complete including impellors, drive shaft, slow speed coupling, gearbox, mounting plate, high speed coupling and electric motor in accordance with the specification and drawings.	No	2		
M 3.1.7	PS 9.3.4	Portable steel frame for maintenance of the mixers complete as specified	No	1		
M 3.1.8		Recommended spares	PC sum	1		450,000.00
M 3.1.9		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 3.2	**PS 9.3.4**	**SECTION 2 :INSTALL & COMMISSION OF THE MECHANICAL EQUIPMENT FOR THE MIXERS. Installation, testing and commissioning of equipment for the Mechanical mixers In accordance with the Specification and drawings.**				
M 3.2.1	PS 9.3.4	Complete 7.5 kW Mixers as supplied under item 3.1.1	No	1		
M 3.2.2	PS 9.3.4	Complete 7.5 kW Mixers as supplied under item 3.1.2	No	4		
M 3.2.3	PS 9.3.4	Complete 11 kW Mixers as supplied under item 3.1.3	No	4		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD					
M 3.2.4	PS 9.3.4	Complete 15 kW Mixers as supplied under item 3.1.4	No	1		
M 3.2.5	PS 9.3.4	Complete 11 kW Mixers as supplied under item 3.1.5	No	6		
M 3.2.6	PS 9.3.4	Complete 7,5 kW Mixers as supplied under item 3.1.6	No	6		
M 3.2.7	PS 9.3.4	Portable steel frame as supplied under item 3.1.7	No	1		
M 3.3		**CIVIL WORKS**				
M 3.3.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
3	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 4 : DESIGN, SUPPLY, DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE MLSS RECIRCULATION PUMPS				
M 4.1	**PS 9.4.4**	**Design, Manufacture and deliver Mechanical equipment for the MLSS Recirculation Pumps In accordance with the Specification and drawings**				
M 4.1.1	PS 9.4.4	Recycle "a" - Aerobic Zone 3 to Anoxic Zone - Recirculation Pump. in accordance with the specification and drawings.	No	2		
M 4.1.2	PS 9.4.4	Recycle "b" - Anaerobic Zone to Pre Anoxic Zone - Recirculation Pump. in accordance with the specification and drawings.	No	2		
M 4.1.3	PS 9.4.4	Flap gate acting as a non return valves to suit recycle :a: pumps	No	2		
M 4.1.4	PS 9.4.4	Flap gate acting as a non return valves to suit recycle "b" pumps	No	2		
M 4.1.5	PS 9.4.4	Crawl beam with "A" type frame supports for maintenance of recycle pumps "a" and "b" complete with chain operated block and tackle designed to suite the pumps offered	No	2		
M 4.1.6		Recommended spares	PC sum	1		200,000.00
M 4.1.7		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
		SECTION 4 :INSTALL & COMMISSION OF THE MECHANICAL EQUIPMENT FOR THE MLSS RECIRCULATION PUMPS.				
M 4.2	**PS 9.4.4**	**Installation, testing and commissioning of equipment for the Mechanical equipmen for the MLSS Recirculaton pumps In accordance with the Specification and drawings.**				
M 4.2.1	PS 9.4.4	Complete Recirculation pumps as supplied under item 4.1.1	No	2		
M 4.2.2	PS 9.4.4	Complete Recirculation pumps as supplied under item 4.1.2	No	2		
M 4.2.3	PS 9.4.4	Complete non return valves as supplied under item 4.1.3	No	2		
M 4.2.4	PS 9.4.4	Complete Flap Gates as supplied under item 4.1.4	No	2		
M 4.2.5	PS 9.4.4	Complete lifting frames as supplied under item 4.1.5	No	2		
M 4.3		**CIVIL WORKS**				
M 4.3.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
4	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 5 : DESIGN, SUPPLY, DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE RAS RECIRCULATION PUMPS				
M 5.1	**PS 9.5.4**	**Design, Manufacture and deliver of the Mechanical equipment for the RAS Recirculation Pumps In accordance with the Specification and drawings**				
M 5.1.1	PS 9.5.4	Recycle "S" - Return Sludge to Pre Anoxic Zone - Recirculation Archemedian Screw Pump Complete. in accordance with the specification and drawings.	No	2		
M 5.1.2		Recommended spares	PC sum	1		300,000.00
M 5.1.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
		SECTION 5 :INSTALL & COMMISSION OF THE MECHANICAL EQUIPMENT FOR THE RAS RECIRCULATION PUMPS.				
M 5.2	**PS 9.5.4**	**Installation, testing and commissioning of equipment for the Mechanical equipmen for the MLSS Recirculaton pumps In accordance with the Specification and drawings**				
M 5.2.1	PS 9.5.4	Complete Recirculation pumps as supplied under item 5.1.1	No	2		
M 5.3		**CIVIL WORKS**				
M 5.3.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
M 5.4		**MISCELLANEOUS ITEMS**				
		Supply and install the following items for GRP Screw Pump Covers				
M 5.4.1		2.05 m wide x 7.43 m long Archimedes Screw GRP Cover Assemblies	No	2		
5	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6		**SECTION 6 : DESIGN, SUPPLY, DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE PST's**				
M 6.1	**PS 9.6.4**	**Design, Manufacture and deliver Mechanical equipment for PST's In accordance with the Specification and drawings**				
M 6.1.1	PS 9.6.4	Complete mechanical equipment for PST's in accordance with the specification and drawings.	No	2		
M 6.1.2	PS 9.6.4	200mm Diameter electrically operated knife gate valves as specified in accordance with the specification and drawings.	No	2		
M 6.1.3		Recommended spares	PC sum	1		100,000.00
M 6.1.4		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
		SECTION 6 : INSTALLATION AND COMMISSIONING OF THE MECHANICAL EQUIPMENT FOR THE PST's				
M 6.2	**PS 9.6.4**	**Installation, testing and commissioning of mechanical equipment for PST's in In accordance with the Specification and drawings**				
M 6.2.1	PS 9.6.4	Complete mechanical equipment for PST's as supplied under item 6.1.1	No	2		
M 6.2.2	PS 9.6.4	200mm Diameter electrically operated knife gate valve as supplied under item 6.1.2	No	2		
M 6.3		**CIVIL WORKS**				
M 6.3.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
6		**TOTAL CARRIED TO SUMMARY**				

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
7		**SECTION 7 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE SST's**				
M 7.1	**PS 9.7.4**	**Design, Manufacture and deliver Mechanical equipment for SST's in accordance with the Specification and drawings**				
M 7.1.1	PS 9.7.4	Complete mechanical equipment for SST's in accordance with the specification and drawings.	No	2		
M 7.1.2		Recommended Spares	PC sum	1		100,000.00
M 7.1.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
		SECTION 7 : INSTALLATION AND, COMMISSIONING OF THE MECHANCIAL EQUIPMENT FOR THE SST's				
M 7.2	**PS 9.7.4**	**Installation, testing and commissioning of mechanical equipment for SST's in accordance with the Specification and drawings**				
M 7.2.1	PS 9.7.4	Complete mechanical equipment supplied under item 7.1.1	No	2		
M 7.3		**CIVIL WORKS**				
M 7.31		Grouting and screeding off all aspects of the mechanical installation	sum	1		
7		**TOTAL CARRIED TO SUMMARY**				

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
8		**SECTION 8 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR THE SLUDGE THICKENERS**				
M 8.1	**PS 9.8.4**	**Design, Manufacture and deliver Mechanical equipment for sludge thickeners in accordance with the Specification and drawings**				
M 8.1.1	PS 9.8.4	Complete mechanical equipment for the sludge thickeners in accordance with the specification and drawings.	No	1		
M 8.1.2		Recommended spares	PC sum	1		100,000.00
M 8.1.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 8.2		**SECTION 8 : INSTALLATION AND COMMISSIONING OF THE MECHANCIAL EQUIPMENT FOR THE SLUDGE THICKENERS**				
M 8.2	**PS 9.8.4**	**Installation, testing and commissioing of mechanical equipment for sludge thickeners in accordance with the Specification and drawings**				
M 8.2.1	PS 9.8.4	Complete mechanical equipment supplied under item 8.1.1	No	1		
		CIVIL WORKS				
M 8.3		Grouting and screeding off all aspects of the mechanical installation	sum	1		
8	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
9		**SECTION 9 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANCIAL EQUIPMENT FOR THE VFA FERMENTERS**				
M 9.1	**PS 9.9.4**	**Design, Manufacture and deliver Mechanical equipment for VFA Fermenters in accordance with the Specification and drawings**				
M 9.1.1	PS 9.9.4	Complete mechanical equipment for the new VFA Fermenter in accordance with the specification and drawings	No	1		
M 9.1.2	PS 9.9.4	Complete mechanical equipment for the existing VFA Fermenter in accordance with the specifications and drawings	Sum	1		
M 9.1.3		Recommended spares	PC sum	1		100,000.00
M 9.1.4		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
		SECTION 9 : INSTALLATION AND COMMSSIONING OF THE MECHANCIAL EQUIPMENT FOR THE VFA FERMENTERS			-	
M 9.2	**PS 9.9.4**	**Installation, testing and commissioning of mechanical equipment for the VFA Fermenters in accordance with the Specification and drawings**				
M 9.2.1	PS 9.9.4	Removal of mechanical equipment from the existing VFA Thickener and stacked on site to where indicated by the Engineer or the Plant Manager	No	1		
M 9.2.2	PS 9.9.4	Complete mechanical equipment for the VFA Fermenters supplied under Item 9.1.1	No	1		
M 9.2.3	PS 9.9.4	Complete mechanical equipment for the VFA fermenter supplied under item 9.1.2	No	1		
		CIVIL WORKS				
M 9.3		Grouting and screeding off all aspects of the mechanical installation	sum	1		
M 9.4		**MISCELLANEOUS ITEMS**				
		Supply and install the following items for the Elutriation Tanks				
M 9.4.1		3.0 m wide x 8.3 m long Elutriation tank GRP Cover Assemblies	No	2		
M 9.4.2		3.0 m wide x 8.7 m long extension of existing Elutriation tank GRP Cover Assemblies	No	1		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

	TOTAL BROUGHT FORWARD					
		Supply and install the following items for the Mixing Tanks				
M 9.4.3		3.1 m wide x 7.8 m long Mixing tank GRP Cover Assemblies	No	1		
M 9.4.4		3.1 m wide x 6.8 m long Mixing tank GRP Cover Assemblies	No	1		
9	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
M 10.1	**PS 9.10.4**	**SECTION 10 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR FERRIC DOSING** **Design, Manufacture and deliver Mechanical equipment for Ferric dosing system.** **In accordance with the Specification and drawings**				
M 10.1.1	PS 9.10.4	30 m³ storage tank complete manufactured in GRP	No	1		
M 10.1.2	PS 9.10.4	Ferric dosing pumps complete with FRP mounting stand. In accordance with the Specification and drawings.	No	1		
M 10.1.3	PS 9.10.4	Interconnecting pipework, fittings, valves and pipe supports from the storage tanks to the pumps.	sum	1		
M 10.1.4	PS 9.10.4	Dosing pipework from dosing pumps to a point 1.0m outside the bund wall including fittings, valves, pressure release valves, pulstaion dampers, back pressure valves and Calibration chambers In accordance with the Specification and drawings.	sum	1		
M 10.1.5	PS 9.10.4	Emergency eye and shower unit including all health and safety signage.	sum	1		
M 10.1.6		Recommended spares	PC sum	1		100,000.00
M 10.1.7		Provission for dosing pipework from dosing pump to reactor No 2	PC sum	1		150,000.00
M 10.1.8		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 10.2	**PS 9.10.4**	**SECTION 10: INSTALLATION AND COMMISSIONING OF THE MECHANICAL EQUIPMENT FOR FERRIC DOSING.** **Instalation, testing and commissioning of mechanical equipment for Ferric dosing system** **In accordance with the Specification and drawings**				
M 10.2.1	PS 9.10.4	Complete mechanical equipment as supplied under item 10.1.1	sum	1		
M 10.2.2	PS 9.10.4	Complete mechanical equipment as supplied under item 10.1.2	sum	1		
M 10.2.3	PS 9.10.4	Complete mechanical equipment as supplied under item 10.1.3	sum	1		
M 10.2.4	PS 9.10.4	Complete mechanical equipment as supplied under item 10.1.4	sum	1		
M 10.2.5	PS 9.10.4	Complete mechanical equipment as supplied under item 10.1.5	sum	1		
M 10.3		**CIVIL WORKS** Grouting and screeding off all aspects of the mechanical installation	sum	1		
10	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 11 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR DISINFECTION DOSING				
M 11.1	**PS 9.11.4**	**Design, Manufacture and delivery of mechanical equipment for disinfection dosing** **In accordance with the Specification and drawings**				
M 11.1.1	PS 9.11.4	DBF Receiving tank 30m3 manufactured in GRP	No	1		
M 11.1.2	PS 9.11.4	DBF Storage tank 30m3 manufactured in GRP	No	1		
M 11.1.3	PS 9.11.4	Pipework, valves, fittings and supports from the tanker offloading point to the receiving tank and from the receiving tank to the storage tanks	Sum	1		
M 11.1.4	PS 9.11.4	Pipework, valves, fittings and supports from the storage tanks to the suction side of the dosing pump	Sum	1		
M 11.1.5	PS 9.11.4	Pipework, valves,fittngs and supports for the dosing pump delivery up to 1.0m outside the bunded area	Sum	1		
M 11.1.6	PS 9.11.4	Dosing pump complete as specified - 0.23l/sec at 20m	No	1		
M 11.1.6		Provission for dosing pipework from dosing pump to connection with existing dosing line	PC sum	1		100,000.00
		SECTION 11: INSTALLATION AND COMMISSIONING OF THE MECHANICAL EQUIPMENT FOR THE DISINFECTION DOSING.				
M 11.2	**PS 9.11.4**	**Instalation, testing and commissioning of mechanical equipment for the disinfection dosing system**				
M 11.2.1	PS 9.11.4	Complete mechanical equipment as supplied under item 11.1.1	sum	1		
M 11.2.2	PS 9.11.4	Complete mechanical equipment as supplied under item 11.2.2	sum	1		
M 11.2.3	PS 9.11.4	Complete mechanical equipment as supplied under item 11.1.3	sum	1		
M 11.2.4	PS 9.11.4	Complete mechanical equipment as supplied under item 11.1.4	sum	1		
M 11.2.5	PS 9.11.4	Complete mechanical equipment as supplied under item 11.1.5	sum	1		
M 11.2.6	PS 9.11.4	Complete mechanical equipment as supplied under item 11.1.6	sum	1		
M 11.2.7	PS 9.11.4	Reposition the existing receieving tank including the necessary modification to the pipework and pipe supports	sum	1		
		TOTAL CARRIED FORWARD				

Employer:		Contractor:	
Witness:		Witness:	

	TOTAL BROUGHT FORWARD					
		CIVIL WORKS				
M 11.3		Grouting and screeding off all aspects of the mechanical installation	sum	1		
11	**TOTAL CARRIED TO SUMMARY**					

Employer:		**Contractor:**	
Witness:		**Witness:**	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION 12 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR PUMP STATIONS				
M 12		**Design, Manufacture and deliver Mechanical equipment for Pump Stations** **In accordance with the Specification and drawings**				
M 12.1	**PS9.12.2**	**WAS/Scum Pump Station**				
M 12.1.1	PS9.12.8	Additional centrifugal pumps complete with motor, base plate, coupling and coupling guard.	No	1		
M 12.1.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the additional pump.	sum	1		
M 12.1.3	PS9.12.8	Replacement of the existing centrifugal pumps complete with motor, base plate, coupling and coupling guard.	No	2		
M 12.1.4	PS9.12.8	Modifications to the suction and discharge pipe work, valves, fittings and pipe supports for the existing pumps.	sum	1		
M 12.1.5	PS9.12.8	Pump Station sump drainage pump complete with pipework, fittings, valves and supports.	No	1		
M 12.1.6		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 12.2	**PS9.12.3**	**Final Effluent sample pump**				
M 12.2.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	1		
M 12.2.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports.	sum	1		
M 12.2.3	PS9.12.8	50nb galvanised delivery pipe from sample pump to analysis building.	m	50		
M 12.3	**PS9.12.4**	**Reactor No 2 sample pump**				
M 12.3.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	1		
M 12.3.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports.	sum	1		
M 12.3.3	PS9.12.8	50nb galvanised delivery pipe from sample pump to analysis building.	m	100		
M 12.4	**PS9.12.5**	**Reactor No 1 sample pump**				
M 12.4.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	1		
M 12.4.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports.	sum	1		
M 12.4.3	PS9.12.8	50nb galvanised delivery pipe from sample pump to analysis building.	m	100		
12	**TOTAL CARRIED FORWARD**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
		SECTION 12 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR PUMP STATIONS				
	PS9.12.8	**Existing VFA Pump Station** **Design, Manufacture and deliver Mechanical equipment for Pump Stations** **In accordance with the Specification and drawings**				
M 12.5	**PS9.12.8**	**VFA sludge transfer pumps**				
M 12.5.1	PS9.12.8	Centrifugal pumps complete with motor, base plate, coupling and coupling guard.	No	2		
M 12.5.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the new pumps as shown on the drawings.	sum	1		
M 12.5.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 12.6	**PS9.12.6b**	**Sump Drainage Pump**				
M 12.6.1	PS9.12.8	Pump Station sump drainage pump complete with pipework, fittings, valves and supports.	No	1		
M 12.7	**PS9.12.6c**	**Recycle Fermented Sludge Pumps**				
M 12.7.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	2		
M 12.7.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports complete as shown on the drawings.	sum	1		
M 12.7.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 12.8	**PS9.12.6d**	**Elutriant Pumps**				
M 12.8.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	3		
M 12.8.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the new pump including modifications to the existing pipework to suit the replacement pumps.	sum	1		
M 12.8.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
12	**TOTAL CARRIED FORWARD**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
		SECTION 12 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR PUMP STATIONS				
	PS9.12.7	**New VFA Pump Station** **Design, Manufacture and deliver Mechanical equipment for Pump Stations In accordance with the Specification and drawings**				
M 12.9	**PS9.12.7a**	**VFA sludge transfer pumps**				
M 12.9.1	PS9.12.8	Centrifugal pumps complete with motor, base plate, coupling and coupling guard.	No	2		
M 12.9.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the new pumps as shown on the drawings.	sum	1		
M 12.9.3		Inspection if civil works for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 12.10	**PS9.12.7b**	**Sump Drainage Pump**				
M 12.10.1	PS9.12.8	Pump Station sump drainage pump complete with pipework, fittings, valves and supports.	No	1		
M 12.11	**PS9.12.7c**	**Recycle Fermented Sludge Pumps**				
M 12.11.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	2		
M 12.11.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the new pumps as shown on the drawings.	sum	1		
M 12.12	**PS9.12.7d**	**Thickened sludge Digester feed pumps**				
M 12.12.1	PS9.12.8	Centrifugal self priming pump complete with motor, base plate, coupling and coupling guard.	No	3		
M 12.12.2	PS9.12.8	Suction and Discharge pipe work, valves, fittings and pipe supports for the new pumps as shown on the drawings.	sum	1		
M 12.13		**Lifting Equipment**				
M 12.13.1	PS9.12.8	2000kg block and tackle for the New FVA pump station	No	1		
M 12.14		**Existing HOW - repairs to grit removal system**				
M 12.14.1		PC Sum for replacement of blowers	PC Sum	1		500,000.00
M 12.14.2		Contractors Mark up on item 12.15.1	%age			
M 12.15		Recommended spares	PC sum	1		500,000.00
M 12.16		Provission for pipes, valves and fittings	PC sum	1		350,000.00
M 12.17		**CIVIL WORKS** Grouting and screeding off all aspects of the mechanical installation	sum	1		
12	**TOTAL CARRIED FORWARD**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
		SECTION 12 :INSTALLATION, TESTING AND COMMISSIONING OF MECHANICAL EQUIPMENT FOR PUMP STATIONS				
M 12.15	**PS9.12.2**	**WAS/Scum Pump Station**				
M 12.15.1	PS9.12.8	Equipment suppled under item 12.1.1	No	1		
M 12.15.2	PS9.12.8	Equipment supplied under item 12.1.2	No	1		
M 12.15.3	PS9.12.8	Equipment supplied under item 12.1.3	No	2		
M 12.15.4	PS9.12.8	Equipment supplied under item 12.1.4	sum	1		
M 12.15.5	PS9.12.8	Equipment supplied under item 12.1.5	sum	1		
M 12.16	**PS9.12.3**	**Finel Effluent sample pump**				
M 12.16.1	PS9.12.8	Equipment supplied under item 12.2.1	No	1		
M 12.16.2	PS9.12.8	Equipment supplied under item 12.2.2	No	1		
M 12.16.3	PS9.8.3.2.2	Equipment supplied under item 12.2.3	m	50		
M 12.17	**PS9.12.4**	**Reactor No 2 sample pump**				
M 12.17.1	PS9.12.8	Equipment supplied under item 12.3.1	No	1		
M 12.17.2	PS9.12.8	Equipment supplied under item 12.3.2	No	1		
M 12.17.3	PS9.12.8	Equipment supplied under item 12.3.3	m	100		
M 12.18	**PS9.12.5**	**Reactor No 1 sample pump**				
M 12.18.1	PS9.12.8	Equipment supplied under item 12.4.1	No	1		
M 12.18.2	PS9.12.8	Equipment supplied under item 12.4.2	No	1		
M 12.18.3	PS9.12.8	Equipment supplied under item 12.4.3	m	100		
	PS9.12.6	**Existing VFA Pump Station**				
M 12.19	**PS9.12.6a**	**VFA sludge transfer pumps**				
M 12.19.1	PS9.12.8	Equipment supplied under item 12.5.1	No	2		
M 12.19.2	PS9.12.8	Equipment supplied under item 12.5.2	No	1		
12	**TOTAL CARRIED FORWARD**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
		SECTION 12 :INSTALLATION, TESTING AND COMMISSIONING OF MECHANICAL EQUIPMENT FOR PUMP STATIONS				
M 12.20	**PS9.12.6b**	**Sump Drainage Pump**				
M 12.20.1	PS9.12.8	Equipment supplied under item 12.6.1	No	2		
M 12.21	**PS9.12.6c**	**Recycle Fermented Sludge Pumps**				
M 12.21.1	PS9.12.8	Equipment supplied under item 12.7.1	No	2		
M 12.21.2	PS9.12.8	Equipment supplied under item 12.7.2	No	1		
M 12.22	**PS9.12.6d**	**Elutriant pumps**				
M 12.22.1	PS9.12.8	Equipment suppled under item 12.8.1	No	2		
M 12.22.2	PS9.12.8	Equipment supplied under item 12.8.2	No	1		
	PS9.12.7	**New VFA Pump Station**				
M 12.23	**PS9.12.7a**	**VFA sludge transfer pumps**				
M 12.23.1	PS9.12.8	Equipment supplied under item 12.9.1	No	2		
M 12.23.2	PS9.12.8	Equipment supplied under item 12.9.2	No	1		
M 12.24	**PS9.12.7b**	**Sump drainage pump**				
M 12.24.1	PS9.12.8	Equipment supplied under item 12.10.1	No	1		
M 12.25	**PS9.12.7c**	**Recycle Fermented sludge pumps**				
M 12.25.1	PS9.12.8	Equipment supplied under item 12.11.1	No	2		
M 12.25.2	PS9.12.8	Equipment supplied under item 12.11.2	No	1		
M 12.26	**PS9.12.7d**	**Thickened sludge digester feed pumps**				
M 12.26.1	PS9.12.8	Equipment supplied under item 12.12.1	No	2		
M 12.26.2	PS9.12.8	Equipment supplied under item 12.12.2	No	1		
M 12.27		**Lifting Equipment**				
M 12.27.1	PS9.12.8	Equipment supplied under item 12.13.1	No	1		
M 12.28		**CIVIL WORKS**				
M 12.28.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
12	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
		SECTION 13 : INSTALLATION, TESTING OF THE MECHANICAL EQUIPMENT FOR ODOUR CONTROL				
M 13.2.3	PS 13.4	Equipment supplied under item 13.1.4	No	1		
M 13.2.4	PS 13.4	Equipment suppled under item 13.1.5	No	2		
M 13.2.5	PS 13.4	Equipment suppled under item 13.1.6	No	1		
M 13.2.6	PS 13.4	Equipment suppled under item 13.1.7	No	2		
M 13.2.7	PS 13.4	Equipment suppled under item 13.1.8	No	1		
M 13.2.8	PS 13.4	Equipment suppled under item 13.1.9	Sum	1		
M 13.2.10		Removal of existing covers from sludge transfer channels and delivery to on site storage as indicated by the Engineer or JW site management	Sum	1		
M 13.2.11		Removal of existing covers from mixing tank and delivery to on site storage as indicated by the Engineer or JW site management	Sum	1		
M 13.2.12		Removal of existing odour treatment plant and delivery to on site storage as indicated by the Engineer or JW site management	Sum	1		
M 13.2.13		Removal of existing odour collection pipework and fittings and delivery to on site storage as indicated by the Engineer or JW site management	Sum	1		
M 13.2.14		Provission for duct column supports	Kg	4000		
M 13.2.15		Performance and acceptance test for a 28 day period	Sum	1		
M 13.3		**CIVIL WORKS**				
M 13.3.1		Grouting and screeding off all aspects of the mechanical installation	sum	1		
M 13.4		Recommended spares	PC sum	1		300,000.00
13 TOTAL CARRIED TO SUMMARY						

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
13		**SECTION 13 : DESIGN, SUPPLY AND DELIVERY OF THE MECHANICAL EQUIPMENT FOR ODOUR CONTROL**				
M 13.1	**PS 13.4**	**Design, Manufacture and deliver Mechanical equipment for Odour Control. In accordance with the Specification and drawings**				
M 13.1.1	PS 13.4	Preparation of design and drawings for approval by the engineer	Sum	1		
M 13.1.2	PS 13.4	Complete Odour treatment plant In accordance with the Specification and drawings.	Sum	1		
M 13.1.3	PS 13.4	Overflow launder odour control covers manufactured in GRP complete with supports and anchors for the new VFA Fermenter In accordance with the Specification and drawings.	Sum	1		
M 13.1.4	PS 13.4	Overflow launder odour control covers manufactured in GRP complete with supports and anchors for the existing VFA Fermenter In accordance with the Specification and drawings.	Sum	1		
M 13.1.5	PS 13.4	New GRP covers to the existing and new mixing chamber In accordance with the Specification and drawings.	No	2		
M 13.1.6	PS 13.4	New GRP covers to the existing sludge transfer channels In accordance with the Specification and drawings.	No	1		
M 13.1.7	PS 13.4	New GRP covers to new sludge transfer sumps In accordance with the Specification and drawings.	No	2		
M 13.1.8	PS 13.4	New GRP covers to new sludge wasting sumps In accordance with the Specification and drawings.	No	1		
M 13.1.9	PS 13.4	Complete adour extraction ducting including fittings, air flow control valves, supports and anchors In accordance with the Specification and drawings.	Sum	1		
M 13.1.10	PS 13.4	Hand held H_2S analysers	No	2		
		SECTION 13 : INSTALLATION, TESTING OF THE MECHANICAL EQUIPMENT FOR ODOUR CONTROL				
M 13.2	**PS 13.4**	**Installation Testing and commissioning of mechanical equipment for odour control In accordance with the Specification and drawings**				
M 13.2.1	PS 13.4	Equipment supplied under item 13.1.2	No	1		
M 13.2.2	PS 13.4	Equipment supplied under item 13.1.3	No	1		
13 TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
14		**SECTION 14 : DESIGN, SUPPLY AND DELIVERY OF MECHANICAL EQUIPMENT H.O.W. (NORTH)**				
M 14.1	**PS 9.14.4**	**Design, Manufacture and Delivery of screening equipment**				
M 14.1.1		**Trash Rake bar**				
M 14.1.1.1	PS 9.14.4	Trash Rake bar screen - in accordance with the specification.	No	2		
M 14.1.1.2	PS 9.14.4	Trash Rake screening mechanism complete - in accordance with the specification and drawings.	No	1		
M 14.1.2.3	PS 9.14.4	Trash Rake screening mechanism monorail and support structure - in accordance with the specification and drawings.	Sum	1		
M 14.1.2.4	PS 9.14.4	Galvanised walk way and access stairs	kg	2500		
M 14.1.2	**PS 9.14.4**	**Primary bar screens**				
M 14.1.2.1	PS 9.14.4	Front Raked bar screen complete - in accordance with the specification and drawings.	No	4		
M 14.1.2.2	PS 9.14.4	Screenings chute extension from screen to existing hydro conveyor	No	4		
	PS 9.14.4	**Design, Manufacture and Delivery of The Screenings handling Equipment**				
M 14.1.3	**PS 9.14.4**	**Primary screenings handling**				
M 14.1.3.1	PS 9.14.4	PC sum for modufications to existing hydro-conveyor as approved by the engineer	PC sum	1		R 250,000.00
M 14.1.3.2	PS 9.14.4	Primary Screenings washer / press / compactor complete - in accordance with the specification and drawings.	No	1		
		SECTION 14 : DESIGN, SUPPLY AND DELIVERY OF MECHANICAL EQUIPMENT UNIT SOUTH				
M 14.2	**PS 9.14.4**	**Design, Manufacture and Delivery of screening equipment**				
M 14.2.1		**Trash Rake bar**				
M 14.2.1.1	PS 9.14.4	Trash Rake bar screen - in accordance with the specification and drawings.	No	3		
M 14.2.1.2	PS 9.14.4	Trash Rake screening mechanism complete - in accordance with the specification and drawings.	No	1		
M 14.2.1.3	PS 9.14.4	Trash Rake screening mechanism monorail and support structure - in accordance with the specification and drawings.	Sum	1		
M 14.2.1.4	PS 9.14.4	Galvanised walk way and access stairs	kg	1500		
M 14.2.1.5	PS 9.14.4	Local control panel for the proper operation of the trash rack sceening mechanism included cabling from the panel to the screening mechanism, instrumentation, cable racking and all necessary supports to proved a fully operational system	sum	1		
	TOTAL CARRIED FORWARD					

Employer:		Contractor:	
Witness:		Witness:	

	TOTAL BROUGHT FORWARD					
M 14.2.2	**PS 9.14.4**	**Primary bar screens**				
M 14.2.2.1	PS 9.14.4	Front Raked bar screen complete - in accordance with the specification and drawings.	No	3		
14	**TOTAL CARRIED FORWARD**					

Employer:		**Contractor:**	
Witness:		**Witness:**	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
	PS 9.14.4	**Design, Manufacture and Delivery of the Screenings handling Equipment**				
M 14.2.2.2	PS 9.14.4	Screenings chute extension from screen to existing hydro conveyor	No	3		
M 14.2.2.3		Inspection if the existing HOW (North) installation for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 14.2.2.4		Inspection if the existing HOW (South) installation for the detailed design of the mechanical equipment to ensure compatability.	Sum	1		
M 14.2.3	**PS 9.14.4**	**Provissional sums**				
M 14.2.3.1		Manually operated Dolly for mounting of screenings skip complete - in accordance with the specification.	PC sum	3	R 350,000.00	R 1,050,000.00
M 14.2.3.2		Civil works for dolly rails	PC sum	1		200,000.00
M 14.2.3.3		Civil works for plinths for monorail	PC sum	1		200,000.00
M 14.2.3.4		PC sum for unforseen modifcations to accommodate trash rakes at HOW NORTH	PC sum	1		2,500,000.00
M 14.2.3.5		PC sum for unforseen modifcations to accommodate trash rakes at HOW SOUTH	PC sum	1		2,500,000.00
12	**TOTAL CARRIED FORWARD**					

Employer:		Contractor:	
Witness:		Witness:	

ITEM NO	PAYMENT REFERENCE	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BROUGHT FORWARD						
M 14.3		**SECTION 14 : INSTALLATION TESTING AND COMMISSIONING OF MECHANICAL EQUIPMENT H.O.W. NORTH**				
	PS 9.14.4	**Installation, testing and commissioning of screening equipment**				
M 14.3.1		**Trash Rake bar**				
M 14.3.1.1		Trash Rake bar screen - in accordance with the specification and drawings.	No	2		
M 14.3.1.2		Trash Rake screening mechanism complete - in accordance with the specification and drawings.	No	1		
M 14.3.1.3		Trash Rake screening mechanism monorail and support structure - in accordance with the specification and drawings.	Sum	1		
M 14.3.2	**PS 9.14.4**	**Primary bar screens**				
M 14.3.2.1		Front Raked bar screen complete - in accordance with the specification and drawings.	No	4		
M 14.3.2.2		Screenings chute extension from screen to existing hydro conveyor	No	4		
M 14.4	**PS 9.14.4**	**SECTION 14 : INSTALLATION TESTING AND COMMISSIONING OF MECHANICAL EQUIPMENT H.O.W. SOUTH**				
	PS 9.14.4	**Installation, testing and commissioning of screening equipment**				
M 14.4.1		**Trash Rake bar**				
M 14.4.1.1		Trash Rake bar screen - in accordance with the specification and drawings.	No	3		
M 14.4.1.2		Trash Rake screening mechanism complete - in accordance with the specification and drawings.	No	1		
		Trash Rake screening mechanism monorail and support structure - in accordance with the specification and drawings.	Sum	1		
M 14.4.2	**PS 9.14.4**	**Primary bar screens**				
M 14.4.2.1		Front Raked bar screen complete - in accordance with the specification and drawings.	No	3		
M 14.4.2.2		Screenings chute extension from screen to existing hydro conveyor	No	3		
14	**TOTAL CARRIED TO SUMMARY**					

Employer:		Contractor:	
Witness:		Witness:	

SECTION	DESCRIPTION	AMOUNT
BROUGHT FORWARD		
2	AERATORS	
3	MIXERS	
4	MLSS RECIRCULATION PUMPS	
5	RAS RECIRCULATION PUMPS	
6	PRIMARY SETTLEMENT TANKS	
7	SECONDARY SETTLEMENT TANKS	
8	SLUDGE THICKENERS	
9	VFA FERMENTERS	
10	FERRIC DOSING	
11	DISINFECTION DOSING	
12	PUMP STATIONS	
13	ODOUR CONTROL	
14	HEAD OF WORKS	
TOTAL CARRIED TO SUMMARY		

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.1		**SUPPLY AND DELIVERY OF NEW MAJOR ELECTRICAL EQUIPMENT**				
E 2.1.1		**MV SWITCHGEAR AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.1.1	PSY2.1.7	Unit 5 Module 2 Bioreactor Substation 11kV Switchgear (Datasheet: JW13898-E-007-1)	Ea.	1		
E 2.1.1.2	PSY2.1.3	Unit 5 Main Intake Substation Incomer Extension to existing Switchgear Actom SBV4/800/25/Si (Datasheet: JW13898-E-007-2)	Ea.	1		
E 2.1.1.3	PSY2.1.7	Unit 5 Module 2 Substation Battery Tripping Unit	Ea.	1		
E 2.1.2		**TRANSFORMER AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.2.1	PSY2.1.7	630kVA, Dual-Wound, 11-6.6/0.4 kV Step Down Transformer (Datasheet:: JW13898-E-013-1)	Ea.	4		
E 2.1.2.2	PSY2.1.3	1600kVA, Dual-Wound, 0.4/6.6-11kV Step Up Transformer (Datasheet:: JW13898-E-013-2)	Ea.	1		
E 2.1.2.3	PSY2.1.1	11kV, 20A, 3s Neutral Earthing Resistor for 1600kVA Step Up Transformer	Ea.	1		
E 2.1.3		**GENERATORS AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.3.1	PSY2.1.3	1600kVA (Prime) Diesel Generator with bulk storage fuel system and all control and interface cables. (Datasheet: JW13898-E-010-1)	Ea.	1		
E 2.1.3.2	PSY2.1.4	315kVA (Prime) Diesel Generator with bulk storage fuel system and all control and interface cables. (Datasheet: JW13898-E-010-2)	Ea.	1		
E 2.1.3.3	PSY2.1.4	Admin Building Changeover Panel - Distribution Board (Datasheet: JW13898-E-007-1)	Ea.	1		
E 2.1.4	PSY2.1.7	**BIOREACTOR MOTOR CONTROL CENTRE AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.4.1		New Unit 5 Module 2 Bioreactor Motor Control Centre (5E2-MCC-01) (Datasheet: JW13898-E-002-1)	Ea.	1		
E 2.1.4.2		Ventilation fan for the MCC Room (3-phase, 400V, 0.55kW, 2880rpm, with air quantity of 500l/s @ 200pa)	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.1.5	PSY2.1.5	**EQUIP EXISTING BALANCING TANK MOTOR CONTROL CENTRE**				
E 2.1.5.1		Equip Existing Balancing Tank and PST MCC with 0.55kW PST Bridge Drive DOL Starter	Ea.	2		
E 2.1.5.2		Equip Existing Balancing Tank and PST MCC with 11kW DOL Starter	Ea.	6		
E 2.1.5.3		Equip Existing Balancing Tank and PST Instrument DB with 6A, 3Pole miniature circuit breaker Valve Feeder	Ea.	2		
E 2.1.6	PSY2.1.10	**EQUIP EXISTING WST MOTOR CONTROL CENTRE**				
E 2.1.6.1		Equip Existing WST MCC with Thickener Drive 0.55kW DOL Starter	Ea.	1		
E 2.1.6.2		Equip Existing WST Instrument DB with 6A, 3Pole miniature circuit breaker Valve Feeder	Ea.	1		
E 2.1.7	PSY2.1.8	**EQUIP EXISTING HYPOCHLORITE MOTOR CONTROL CENTRE**				
E 2.1.7.1		Equip Existing Hypochlorite MCC with 0.75kW VSD Starter	Ea.	1		
E 2.1.8	PSY2.1.11	**EQUIP EXISTING WAS PUMPSTATION MOTOR CONTROL CENTRE**				
E 2.1.8.1		Equip Existing WAS Pump station MCC with 22kW DOL Starter	Ea.	1		
E 2.1.9	PSY2.1.6	**NEW AND EXSTING ELUTRIATION/FERMENTATION MOTOR CONTROL CENTRE**				
E 2.1.9.1		Equip Existing Elutriation Pump station MCC with 18.5kW DOL Starter	Ea.	3		
E 2.1.9.2		Equip Existing Elutriation Pump station MCC with 5.5kW DOL Starter	Ea.	2		
E 2.1.9.3		Equip Existing Elutriation Pump station MCC with 11kW DOL Starter	Ea.	2		
E 2.1.9.4		Unit 5 New Fermentation Motor Control Centre (Datasheet: JW13898-E-002-1)	Ea.	1		
E 2.1.9.5		Ventilation fan for the MCC Room (3-phase, 400V, 0.55kW, 2880rpm, with air quantity of 500l/s @ 200pa)	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.1.10	PSY2.1.14	**SMALL POWER DISTRIBUTION BOARDS AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.10.1		Unit 5 Bioreactor 2 Substation SP&L DB (Datasheet: ING645D-WSP-E-002-2)	Ea.	2		
E 2.1.10.2		Unit 5 Elutriation Pump Station SP&L DB (Datasheet: JW13898-E-002-2)	Ea.	2		
E 2.1.11	PSY2.1.7	**INSTRUMENT DISTRIBUTION BOARDS AS PER DATASHEETS AND SPECIFICATION**				
E 2.1.11.1		Unit 5 Module 2 Instrument DB (Datasheet: JW13898-E-002-3)	Ea.	1		
E 2.1.11.2		Unit 5 Elutriation Instrument DB (Datasheet: JW13898-E-002-3)	Ea.	1		
E 2.1.12		**EQUIPING EXISTING INSTRUMENT DISTRIBUTION BOARDS AS PER SPECIFICATION**				
E 2.1.12.1	PSY2.1.15	Equipping the existing PST and Balancing Tank Instrument DB with 2A, 2-pole miniature circuit breakers	Ea.	5		
E 2.1.12.2	PSY2.1.18	Equipping the existing Hypochlorite Instrument DB with 2A, 2-pole miniature circuit breaker	Ea.	1		
E 2.1.12.3		Equipping the existing Unit 5 Bioreactor 1 Analyser Room Instrument DB with 2A, 2-pole miniature circuit breakers	Ea.	8		
E 2.1.12.3	PSY2.1.9	Equipping the existing Final Effluent Analyser Room Instrument DB with 2A, 2-pole miniature circuit breakers	Ea.	9		
E 2.1.13		**ELECTRICAL ISOLATOR PUSHBUTTON STATION (LOCAL START/STOP) EQUIPMENT**				
E 2.1.13.1		0.37kW to 30kW (DOL Motor Station) 63A Isolator	Ea.	60		
E 2.1.13.2		37kW to 75kW (DOL Motor Station) 160A Isolator	Ea.	4		
E 2.1.13.2.3		90kW to 110kW (Star-Delta Motor Station) 200A Isolator	Ea.	9		
E 2.2	PSY2.1.13	**SUPPLY AND DELIVERY OF EARTHING AND LIGHTNING PROTECTION**				
E 2.2.1		Earthing and Lightning Protection for Bioreactor Substation and MCC by specialist	Prov.	Sum		R 500,000.00
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.2.2		Earthing and Lightning Protection for New Elutriation Pump station and MCC Room by specialist	Prov.	Sum		R 150,000.00
E2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.3		**SUPPLY AND DELIVERY OF SMALL POWER AND LIGHTING EQUIPMENT**				
E 2.3.1	PSY2.1.12	**AREA LIGHTING**				
E 2.3.1.1		High mast pole - 20 meters tall, mid-hinged type, galvanised steel construction (including allowance for supply and installation of concrete plinths). Pole to be designed to support 8 off 400 W LED floodlights. Masts to include DB as per drawing ING0645D-5E2-SM04	Ea.	3		
E 2.3.1.2		400 W LED Floodlight (IP65 ingress protection, wide beam, hail proof, corrosion proof and vandal resistant) complete with mounting accessories, mounted on high mast poles	Ea.	24		
E 2.3.1.3		Provision to move existing Fermentation/Elutriation fixed approximately 25m High Mast	Ea.	1		
E 2.3.2	PSY2.1.12	**LUMINAIRES**				
E 2.3.2.1		2 x 58W industrial fluorescent with Polycarbonate diffuser and Electronic Control Gear, IP65 ingress protection complete with mounting accessories	Ea.	18		
E 2.3.2.2		2 x 58W industrial fluorescent with Polycarbonate diffuser and Electronic Control Gear and built in emergency back-up - 1hour with 100% light output, IP65 ingress protection complete with mounting accessories	Ea.	4		
E 2.3.2.3		80W High Pressure Sodium Bulk heads, IP65 ingress protection complete with mounting accessories	Ea.	6		
E 2.3.3		**CONDUITS AND WIRING**				
E 2.3.3.1		25 mm Bosal (Galvanised Steel) conduit (c/w with mounting saddles and mounting accessories for surface mounting)	Ea.	60		
E 2.3.3.2		40 mm Bosal (Galvanised Steel) conduit (c/w with mounting saddles and mounting accessories for surface mounting)	Ea.	20		
E 2.3.3.3		2-way conduit round boxes fitted with 5A socket outlet for luminaire plug tops	Ea.	0		
E 2.3.3.4		3-way conduit round boxes (Galvanised Steel) for 25mm conduit	Ea.	3		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.3.3.5		3-way conduit round boxes for (Galvanised Steel) for 40mm conduit	Ea.	0		
E 2.3.2.6		4mm² PVC wire to SANS 1411, installed in conduit	m	405		
E 2.3.2.7		2.5mm² PVC wire to SANS 1411, installed in conduit	m	550		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.3.4		**SWITCHES AND SOCKET OUTLETS**				
E 2.3.4.1		Surface Mounted 16 A industrial type switch socket outlet	Ea.	4		
E 2.3.4.2		Surface Mounted 63 A welding socket outlet, 5-pin round type, IP44	Ea.	3		
E 2.3.4.3		Surface Mounted 1-way industrial light switch	Ea.	0		
E 2.3.4.4		Surface Mounted 2-way industrial type light switch	Ea.	6		
E 2.3.4.5		Surface Mounted industrial type 16A double pole isolator	Ea.	0		
E 2.4	PSY2.1.15	**SUPPLY AND DELIVERY OF XLPE INSULATED, PVC BEDDED, STEEL WIRE ARMOURED, PVC SHEATHED 6.35/11kV CABLES TO SANS 1339 TYPE A**				
	PSY2.1.7	**BIOREACTOR PRIMARY MEDIUM VOLTAGE CABLE**				
E 2.4.1		**Cable from Bioreactor 1 Substation to Bioreactor 2 Substation**				
E 2.4.1.1		Power cable 120mm² 3-Core XLPE Cable	m	300		
E 2.4.1.2		120mm² 3-Core Copper Cable terminations	Ea.	4		
E 2.4.1.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	300		
E 2.4.1.4		95mm² Clear Insulated KWENA termination kit	Ea.	4		
		UPGRADE OF UNIT 5 MAIN INTAKE SUB FEEDER CABLES				
E 2.4.2	PSY2.1.1	**Main Intake Sub to Unit 5 Intake Sub - Incomer CB2**				
E 2.4.2.1		Power cable 150mm² 3-Core XLPE Cable	m	1000		
E 2.4.2.2		150mm² 3-Core Copper Cable terminations	Ea.	8		
E 2.4.2.3		150mm² 3-Core Copper Cable splice kits	Ea.	6		
E 2.4.2.4		Earth cable 95mm² Clear Insulated KWENA Cable	m	1000		
E 2.4.2.5		95mm² Clear Insulated KWENA termination kit	Ea.	8		
E 2.4.2.6		95mm² Clear Insulated KWENA splice kits	Ea.	6		
E 2.4.3	PSY2.1.1	**Main Intake Sub to Unit 5 Intake Sub - Incomer CB6**				
E 2.4.3.1		Power cable 150mm² 3-Core XLPE Cable	m	1000		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.4.3.2		150mm² 3-Core Copper Cable terminations	Ea.	8		
E 2.4.3.3		150mm² 3-Core Copper Cable splice kits	Ea.	14		
E 2.4.3.4		Earth cable 95mm² Clear Insulated KWENA Cable	m	1000		
E 2.4.3.5		95mm² Clear Insulated KWENA termination kit	Ea.	8		
E 2.4.3.6		95mm² Clear Insulated KWENA splice kits	Ea.	14		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.4.4		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 1**				
E 2.4.4.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.4.4.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.4.4.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.4.4.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.4.5		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 2**				
E 2.4.5.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.4.5.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.4.5.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.4.5.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.4.6		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 3**				
E 2.4.6.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.4.6.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.4.6.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.4.6.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.4.7		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 4**				
E 2.4.7.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.4.7.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.4.7.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.4.7.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.5		**SUPPLY AND DELIVERY LOW VOLTAGE RESIN ENCAPSULATED BUSBAR ACCORDING TO IEC60431 and IEC 60331-21**				
E 2.5.1	PSY2.1.7	**Bio-Reactor Busbar trunking from Transformer to MCC**	Lot	1		
E 2.5.1.1		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 1 to Bio-Reactor 2 MCC1	Lot	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.5.1.2		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 2 to Bio-Reactor 2 MCC2	Lot	1		
E 2.5.1.3		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 3 to Bio-Reactor 2 MCC3	Lot	1		
E 2.5.1.4		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 4 to Bio-Reactor 2 MCC4	Lot	1		
E2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6	PSY2.1.15	**SUPPLY AND DELIVERY OF PVC INSULATED, PVC BEDDED, STEEL WIRE ARMOURED, PVC SHEATHED 600/1000V FLAME RETARDANT (RED STRIPE) CABLES TO SANS 1507-3 AND SANS 60332**				
		BALANCING TANK AND PST CABLES				
E 2.6.1		**5M6ME07 - PST5 Bridge Drive**				
E 2.6.1.1		Power cable 2.5mm² 4-Core Copper Cable	m	135		
E 2.6.1.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.1.3		Control Cable 2.5mm² 12-Core Copper Cable	m	130		
E 2.6.1.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.2		**5M6ME08 - PST6 Bridge Drive**				
E 2.6.2.1		Power cable 2.5mm² 4-Core Copper Cable	m	95		
E 2.6.2.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.2.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.6.2.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.3		**5M7ME10 - Balancing Tank 2 Mixer 1**				
E 2.6.3.1		Power cable 2.5mm² 4-Core Copper Cable	m	145		
E 2.6.3.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.3.3		Control Cable 2.5mm² 12-Core Copper Cable	m	140		
E 2.6.3.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.4		**5M7ME11 - Balancing Tank 2 Mixer 2**				
E 2.6.4.1		Power cable 2.5mm² 4-Core Copper Cable	m	125		
E 2.6.4.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.4.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.6.4.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.5		**5M7ME12 - Balancing Tank 2 Mixer 3**				
E 2.6.5.1		Power cable 2.5mm² 4-Core Copper Cable	m	125		
E 2.6.5.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.5.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.6.5.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.6		**5M7ME13 - Balancing Tank 2 Mixer 4**				
E 2.6.6.1		Power cable 6mm² 4-Core Copper Cable	m	105		
E 2.6.6.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.6.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.6.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.7		**5M7ME14 - Balancing Tank 2 Mixer 5**				
E 2.6.7.1		Power cable 6mm² 4-Core Copper Cable	m	105		
E 2.6.7.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.7.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.7.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.8		**5M7ME15 - Balancing Tank 2 Mixer 6**				
E 2.6.8.1		Power cable 6mm² 4-Core Copper Cable	m	85		
E 2.6.8.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.8.3		Control Cable 2.5mm² 12-Core Copper Cable	m	80		
E 2.6.8.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.9		**5M6ME09 - PST5 Underflow Valve**				
E 2.6.9.1		Power cable 2.5mm² 4-Core Copper Cable	m	90		
E 2.6.9.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.10		**5M6ME10 - PST6 Underflow Valve**				
E 2.6.10.1		Power cable 2.5mm² 4-Core Copper Cable	m	90		
E 2.6.10.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.11		**5M7ME16 - Balancing Tank 2 Outlet Sluice Gate**				
E 2.6.11.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.6.11.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.12		**5M7ME17 - Balancing Tank 2 Inlet Sluice Gate**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.12.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.6.12.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
	PSY2.1.6	**ELUTRIATION CABLES**				
E 2.6.13		**5M8ME08 - Effluent Pump 01**				
E 2.6.13.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.6.13.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.13.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.6.13.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.14		**5M8ME09 - Effluent Pump 02**				
E 2.6.14.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.6.14.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.14.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.6.14.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.15		**5M8ME19 - Effluent Pump 03**				
E 2.6.15.1		Power cable 10mm² 4-Core Copper Cable	m	35		
E 2.6.15.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.15.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.6.15.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.16		**5M8ME05 - Sludge Recycle Pump 01**				
E 2.6.16.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.6.16.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.16.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.6.16.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.17		**5M8ME06 - Sludge Recycle Pump 02**				
E 2.6.17.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.6.17.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.17.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.6.17.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.18		**5M8ME07 - Transfer Pump 01**				
E 2.6.18.1		Power cable 4mm² 4-Core Copper Cable	m	30		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.18.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.18.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.6.18.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.19		**5M8ME08 - Transfer Pump 02**				
E 2.6.19.1		Power cable 4mm² 4-Core Copper Cable	m	30		
E 2.6.19.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.19.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.6.19.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.20		**5M8ME17 - Thickener 2 Bridge Drive**				
E 2.6.20.1		Power cable 2.5mm² 4-Core Copper Cable	m	60		
E 2.6.20.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.20.3		Control Cable 2.5mm² 12-Core Copper Cable	m	55		
E 2.6.20.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.21		**5M8ME18 - Elutriation Mixer**				
E 2.6.21.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.6.21.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.21.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.6.21.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.22		**5M8ME24 - Effluent Pump 04**				
E 2.6.22.1		Power cable 2.5mm² 4-Core Copper Cable	m	40		
E 2.6.22.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.22.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.6.22.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.23		**5M8ME25 - Effluent Pump 05**				
E 2.6.23.1		Power cable 2.5mm² 4-Core Copper Cable	m	40		
E 2.6.23.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.23.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.6.23.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.24		**5M8ME26 - Effluent Pump 06**				
E 2.6.24.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.6.24.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.24.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.6.24.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.25		**5M8ME20 - Sludge Recycle Pump 03**				
E 2.6.25.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.6.25.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.25.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.6.25.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.26		**5M8ME201- Sludge Recycle Pump 04**				
E 2.6.26.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.6.26.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.26.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.6.26.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.27		**5M8ME22 - Transfer Pump 03**				
E 2.6.27.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.6.27.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.27.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.6.27.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.28		**5M8ME23 - Transfer Pump 04**				
E 2.6.28.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.6.28.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.28.3		Control Cable 2.5mm² 12-Core Copper Cable	m	15		
E 2.6.28.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.29		**5M8ME28 - Sump Pump**				
E 2.6.29.1		Power cable 2.5mm² 4-Core Copper Cable	m	25		
E 2.6.29.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.29.3		Control Cable 2.5mm² 12-Core Copper Cable	m	20		
E 2.6.29.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.30		**5M8ME - Elutriation Instrument DB**				
E 2.6.30.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.6.30.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.30.3		Earth cable 16mm² Clear Insulated KWENA Cable	m	20		
E 2.6.30.4		16mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.6.31		**5M8ME - Elutriation SP&L DB**				
E 2.6.31.1		Power cable 25mm² 4-Core Copper Cable	m	20		
E 2.6.31.2		25mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.31.3		Earth cable 16mm² Clear Insulated KWENA Cable	m	20		
E 2.6.31.4		16mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.6.32		**5M8MCC02 - Elutriation MCC Supply Cable**				
E 2.6.32.1		Power cable 95mm² 4-Core Copper Cable	m	65		
E 2.6.32.2		95mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.32.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	65		
E 2.6.32.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.6.33		**5M8ME29 - Sludge Recirculation Valve**				
E 2.6.33.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.6.33.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.34		**5M8ME01 - Odour Control Recirculating Pump**				
E 2.6.34.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.6.34.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.34.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.34.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.35		**5M8ME02 - Odour Control Effluent Pump**				
E 2.6.35.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.6.35.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.35.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.35.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.36		**5M8ME03 - Odour Control Blower**				
E 2.6.36.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.6.36.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.36.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.36.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.37		**5M8ME04 - Odour Control Nutrient solution Mixer**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.37.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.6.37.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.37.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.37.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
	PSY2.1.7	**MODULE 2 BIOREACTOR CABLES**				
E 2.6.38		**5M2ME01 - Mixer 1**				
E 2.6.38.1		Power cable 10mm² 4-Core Copper Cable	m	95		
E 2.6.38.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.38.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.6.38.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.39		**5M2ME05 - Mixer 5**				
E 2.6.39.1		Power cable 10mm² 4-Core Copper Cable	m	125		
E 2.6.39.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.39.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.6.39.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.40		**5M2ME09 - Mixer 9**				
E 2.6.40.1		Power cable 25mm² 4-Core Copper Cable	m	160		
E 2.6.40.2		25mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.40.3		Power cable (from S/S Station to Motor) 10mm² 4-Core Copper Cable	m	5		
E 2.6.40.4		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.40.5		Control Cable 2.5mm² 12-Core Copper Cable	m	160		
E 2.6.40.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.41		**5M2ME10 - Aerator 1**				
E 2.6.41.1		Power cable 150mm² 4-Core Aluminium Cable	m	580		
E 2.6.41.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.41.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.41.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.41.5		Control Cable 2.5mm² 19-Core Copper Cable	m	145		
E 2.6.41.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.42		**5M2ME14 - Aerator 5**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.42.1		Power cable 95mm² 4-Core Aluminium Cable	m	740		
E 2.6.42.2		95mm² 4-Core Aluminium Cable terminations	Ea.	16		
E 2.6.42.3		Control Cable 2.5mm² 19-Core Copper Cable	m	180		
E 2.6.42.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.43		**5M2ME10 - Aerator 9**				
E 2.6.43.1		Power cable 150mm² 4-Core Aluminium Cable	m	860		
E 2.6.43.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.43.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.43.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.43.5		Control Cable 2.5mm² 19-Core Copper Cable	m	215		
E 2.6.43.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.44		**5M2ME24 - Mixed Liquor Pump 1**				
E 2.6.44.1		Power cable 2.5mm² 4-Core Copper Cable	m	80		
E 2.6.44.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.44.3		Control Cable 2.5mm² 12-Core Copper Cable	m	75		
E 2.6.44.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.45		**5M2ME28 - Clarifier 1 Bridge Drive**				
E 2.6.45.1		Power cable 2.5mm² 4-Core Copper Cable	m	345		
E 2.6.45.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.45.3		Control Cable 2.5mm² 12-Core Copper Cable	m	340		
E 2.6.45.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.46		**5M2ME02 - Mixer 2**				
E 2.6.46.1		Power cable 10mm² 4-Core Copper Cable	m	80		
E 2.6.46.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.46.3		Control Cable 2.5mm² 12-Core Copper Cable	m	75		
E 2.6.46.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.47		**5M2ME02 - Mixer 6**				
E 2.6.47.1		Power cable 10mm² 4-Core Copper Cable	m	110		
E 2.6.47.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.47.3		Control Cable 2.5mm² 12-Core Copper Cable	m	105		
E 2.6.47.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.48		**5M2ME11 - Aerator 2**				
E 2.6.48.1		Power cable 120mm² 4-Core Aluminium Cable	m	620		
E 2.6.48.2		120mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.48.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.48.4		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.48.5		Control Cable 2.5mm² 19-Core Copper Cable	m	160		
E 2.6.48.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.49		**5M2ME15 - Aerator 6**				
E 2.6.49.1		Power cable 150mm² 4-Core Aluminium Cable	m	780		
E 2.6.49.2		150mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.49.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.49.4		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.49.5		Control Cable 2.5mm² 19-Core Copper Cable	m	195		
E 2.6.49.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.50		**5M2ME19 - Mixer 10**				
E 2.6.50.1		Power cable 70mm² 4-Core Aluminium Cable	m	225		
E 2.6.50.2		70mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.50.3		Power cable (from S/S Station to Motor) 25mm² 4-Core Aluminium Cable	m	5		
E 2.6.50.4		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.50.5		Control Cable 2.5mm² 19-Core Copper Cable	m	225		
E 2.6.50.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.51		**5M2ME19 - Mixer 10**				
E 2.6.51.1		Power cable 70mm² 4-Core Aluminium Cable	m	225		
E 2.6.51.2		70mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.51.3		Power cable (from S/S Station to Motor) 25mm² 4-Core Aluminium Cable	m	5		
E 2.6.51.4		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.51.5		Control Cable 2.5mm² 19-Core Copper Cable	m	225		
E 2.6.51.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.52		**5M2ME20 - Aerator 10**				
E 2.6.52.1		Power cable 95mm² 4-Core Aluminium Cable	m	1000		
E 2.6.52.2		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.52.3		Control Cable 2.5mm² 19-Core Copper Cable	m	245		
E 2.6.52.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2		SUPPLY AND DELIVERY OF ELECTRICAL WORKS				
E 2.6.53		**5M2ME23 - Aerator 13**				
E 2.6.53.1		Power cable 120mm² 4-Core Aluminium Cable	m	240		
E 2.6.53.2		120mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.53.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.6.53.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.53.5		Control Cable 2.5mm² 12-Core Copper Cable	m	240		
E 2.6.53.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.54		**5M2ME25 - Mixed Liquor Pump 2**				
E 2.6.54.1		Power cable 95mm² 4-Core Aluminium Cable	m	85		
E 2.6.54.2		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.54.3		Control Cable 2.5mm² 19-Core Copper Cable	m	80		
E 2.6.54.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.55		**5M2ME29 - Clarifier 2 Bridge Drive**				
E 2.6.55.1		Power cable 4mm² 4-Core Copper Cable	m	365		
E 2.6.55.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.55.3		Control Cable 2.5mm² 12-Core Copper Cable	m	360		
E 2.6.55.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.56		**5M2ME03 - Mixer 3**				
E 2.6.56.1		Power cable 10mm² 4-Core Copper Cable	m	95		
E 2.6.56.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.56.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.6.56.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.57		**5M2ME07 - Mixer 7**				
E 2.6.57.1		Power cable 16mm² 4-Core Copper Cable	m	135		
E 2.6.57.2		16mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.57.3		Control Cable 2.5mm² 12-Core Copper Cable	m	130		
E 2.6.57.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.58		**5M2ME15 - Aerator 3**				
E 2.6.58.1		Power cable 150mm² 4-Core Aluminium Cable	m	700		
E 2.6.58.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.58.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.58.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.58.5		Control Cable 2.5mm² 19-Core Copper Cable	m	175		
E 2.6.58.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.59		**5M2ME21 - Aerator 11**				
E 2.6.59.1		Power cable 120mm² 4-Core Aluminium Cable	m	260		
E 2.6.59.2		120mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.59.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.6.59.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.59.5		Control Cable 2.5mm² 19-Core Copper Cable	m	260		
E 2.6.59.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.60		**5M2ME26 - Mixed Liquor Pump 3**				
E 2.6.60.1		Power cable 70mm² 4-Core Copper Cable	m	455		
E 2.6.60.2		70mm² 4-Core Copper Cable terminations	Ea.	6		
E 2.6.60.3		Control Cable 2.5mm² 12-Core Copper Cable	m	225		
E 2.6.60.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.61		**5M2ME30 - Clarifier 3 Bridge Drive**				
E 2.6.61.1		Power cable 4mm² 4-Core Copper Cable	m	385		
E 2.6.61.2		4mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.61.3		Control Cable 2.5mm² 12-Core Copper Cable	m	380		
E 2.6.61.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.62		**5M2ME31 - Screw Pump 1**				
E 2.6.62.1		Power cable 70mm² 4-Core Aluminium Cable	m	555		
E 2.6.62.2		70mm² 4-Core Aluminium Cable terminations	Ea.	6		
E 2.6.62.3		Control Cable 2.5mm² 12-Core Copper Cable	m	275		
E 2.6.62.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.63		**5M2ME35 - Screw 1 Grease Pump**				
E 2.6.63.1		Power cable 10mm² 3-Core Aluminium Cable	m	275		
E 2.6.63.2		10mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.6.63.3		Power cable 4mm² 3-Core Aluminium Cable	m	5		
E 2.6.63.4		4mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.6.64		**5M2ME34 - Effluent Sample Pump 1**				
E 2.6.64.1		Power cable 4mm² 4-Core Aluminium Cable	m	105		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.64.2		4mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.64.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.6.64.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.65		**5M1ME40 - Chemical Dosing Pump 3**				
E 2.6.65.1		Power cable 2.5mm² 4-Core Aluminium Cable	m	280		
E 2.6.65.2		2.5mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.65.3		Control Cable 2.5mm² 12-Core Copper Cable	m	275		
E 2.6.65.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.66		**5M2ME04 - Mixer 4**				
E 2.6.66.1		Power cable 16mm² 4-Core Copper Cable	m	110		
E 2.6.66.2		16mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.66.3		Power cable (from S/S Station to Motor) 6mm² 4-Core Copper Cable	m	5		
E 2.6.66.4		6mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.66.5		Control Cable 2.5mm² 12-Core Copper Cable	m	110		
E 2.6.66.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.67		**5M2ME08 - Mixer 8**				
E 2.6.67.1		Power cable 25mm² 4-Core Aluminium Cable	m	145		
E 2.6.67.2		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.67.3		Power cable (from S/S Station to Motor) 10mm² 4-Core Aluminium Cable	m	5		
E 2.6.67.4		10mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.67.5		Control Cable 2.5mm² 12-Core Copper Cable	m	140		
E 2.6.67.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.68		**5M2ME13 - Aerator 4**				
E 2.6.68.1		Power cable 150mm² 4-Core Aluminium Cable	m	800		
E 2.6.68.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.68.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.6.68.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.68.5		Control Cable 2.5mm² 19-Core Copper Cable	m	200		
E 2.6.68.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.69		**5M2ME13 - Aerator 8**				
E 2.6.69.1		Power cable 185mm² 4-Core Aluminium Cable	m	960		
E 2.6.69.2		185mm² 4-Core Aluminium Cable terminations	Ea.	8		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.69.3		Power cable (from S/S Station to Motor) 120mm² 4-Core Aluminium Cable	m	20		
E 2.6.69.4		120mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.6.69.5		Control Cable 2.5mm² 19-Core Copper Cable	m	235		
E 2.6.69.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.70		**5M2ME22 - Aerator 12**				
E 2.6.70.1		Power cable 150mm² 4-Core Aluminium Cable	m	255		
E 2.6.70.2		150mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.70.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	20		
E 2.6.70.4		50mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.70.5		Control Cable 2.5mm² 19-Core Copper Cable	m	255		
E 2.6.70.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.6.71		**5M2ME27 - Mixed Liquor Pump 4**				
E 2.6.71.1		Power cable 70mm² 4-Core Aluminium Cable	m	460		
E 2.6.71.2		70mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.6.71.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.6.71.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.6.71.5		Control Cable 2.5mm² 12-Core Copper Cable	m	230		
E 2.6.71.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.72		**5M2ME32 - Screw Pump 2**				
E 2.6.72.1		Power cable 70mm² 4-Core Aluminium Cable	m	555		
E 2.6.72.2		70mm² 4-Core Aluminium Cable terminations	Ea.	6		
E 2.6.72.3		Control Cable 2.5mm² 12-Core Copper Cable	m	275		
E 2.6.72.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.73		**5M2ME36 - Screw 2 Grease Pump**				
E 2.6.73.1		Power cable 10mm² 3-Core Aluminium Cable	m	275		
E 2.6.73.2		10mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.6.73.3		Power cable 4mm² 3-Core Aluminium Cable	m	5		
E 2.6.73.4		4mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.6.74		**5M2ME33 - WAS Flow Control Valve**				
E 2.6.74.1		Power cable 2.5mm² 4-Core Copper Cable	m	100		
E 2.6.74.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.75		**PLC80**				
E 2.6.75.1		Power cable 10mm² 4-Core Copper Cable	m	20		
E 2.6.75.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.75.3		Power cable 6mm² Clear Insulated KWENA Cable	m	20		
E 2.6.75.4		6mm² Clear Insulated KWENA Cable termination	Ea.	2		
E2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.6.76		**Instrument DB**				
E 2.6.76.1		Power cable 10mm² 4-Core Copper Cable	m	20		
E 2.6.76.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.76.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	20		
E 2.6.76.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.6.77		**Bio-Reactor MCC SP&L DB**				
E 2.6.77.1		Power cable 16mm² 4-Core Copper Cable	m	20		
E 2.6.77.2		16mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.77.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	20		
E 2.6.77.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.6.78	PSY2.1.12	**High Mast Light 01**				
E 2.6.78.1		Power cable 10mm² 4-Core Copper Cable	m	120		
E 2.6.78.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.78.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	120		
E 2.6.78.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.6.79	PSY2.1.12	**High Mast Light 02**				
E 2.6.79.1		Power cable 10mm² 4-Core Copper Cable	m	240		
E 2.6.79.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.79.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	240		
E 2.6.79.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.6.80	PSY2.1.12	**High Mast Light 03**				
E 2.6.80.1		Power cable 10mm² 4-Core Copper Cable	m	360		
E 2.6.80.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.80.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	360		
E 2.6.80.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
	PSY2.1.8	**HYPOCHLORITE CABLES**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.81		**5M5ME03 - Chemical Dosing Pump3**				
E 2.6.81.1		Power cable 2.5mm² 4-Core Copper Cable	m	50		
E 2.6.81.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.6.81.3		Control Cable 2.5mm² 19-Core Copper Cable	m	50		
E 2.6.81.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
	PSY2.1.10	**WASTE SLUDGE THICKENER**				
E 2.6.82		**5M9ME11 - WST2 Thickener Drive**				
E 2.6.82.1		Power cable 2.5mm² 4-Core Copper Cable	m	305		
E 2.6.82.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.82.3		Control Cable 2.5mm² 12-Core Copper Cable	m	300		
E 2.6.82.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.6.83		**5M9ME10 - WST2 Underflow Valve**				
E 2.6.83.1		Power cable 2.5mm² 4-Core Copper Cable	m	300		
E 2.6.83.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
	PSY2.1.10	**WAS PUMPSTATION CABLES**				
E 2.6.84		**5M9ME09 - WAS Pump 3**				
E 2.6.84.1		Power cable 2.5mm² 4-Core Copper Cable	m	45		
E 2.6.84.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.84.3		Control Cable 2.5mm² 12-Core Copper Cable	m	40		
E 2.6.84.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
		VENTILATION FAN CABLES				
E 2.6.85		**Ventilation Fan 01**				
E 2.6.85.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.6.85.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.86		**Ventilation Fan 02**				
E 2.6.86.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.6.86.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.6.87		**Ventilation Fan 03**				
E 2.6.87.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.6.87.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.6.88		**Ventilation Fan 04**				
E 2.6.88.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.6.88.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.7	PSY2.1.16	**SUPPLY AND DELIVERY OF ORANGE POWDER COATED 304 STAINLESS STEEL HEAVY DUTY CABLE LADDER, COMPLETE WITH UNISTRUT SUPPORT BRACKETS AND FIXING MATERIALS**				
E 2.71		1000mm wide cable ladder - straight	m	700		
E 2.7.2		1000mm wide cable ladder - elbow	Ea.	56		
E 2.7.3		1000mm wide cable ladder - dropper / riser	Ea.	11		
E 2.7.4		1000mm cable ladder covers	m	55		
E 2.7.5		800mm wide cable ladder - straight	m	20		
E 2.7.6		800mm wide cable ladder - elbow	Ea.	0		
E 2.7.7		800mm wide cable ladder - dropper / riser	Ea.	2		
E 2.7.8		800mm wide cable ladder covers	m	10		
E 2.7.9		600mm wide cable ladder - straight	m	300		
E 2.7.10		600mm wide cable ladder - elbow	Ea.	12		
E 2.7.11		600mm wide cable ladder - dropper / riser	Ea.	6		
E 2.7.12		600mm wide cable ladder covers	m	15		
E 2.7.13		200mm wide cable ladder - straight	m	30		
E 2.7.14		200mm wide cable ladder - elbow	Ea.	3		
E 2.7.15		200mm wide cable ladder - dropper / riser	Ea.	1		
E 2.7.16		200mm wide cable ladder covers	m	10		
E 2.7.17		150mm wide cable ladder - straight	m	20		
E 2.7.18		150mm wide cable ladder - elbow	Ea.	2		
E 2.7.19		150mm wide cable ladder - dropper / riser	Ea.	3		
E 2.7.20		150mm wide cable ladder covers	m	10		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.8	PSY2.1.16	**ORANGE PIGMENTED GLASS REINFORCED POLYESTER CABLE LADDER, COMPLETE WITH 316 STAINLESS STEEL SUPPORT BRACKETS AND FIXING MATERIALS, MOUNTED ON BUILDING WALLS OR OTHER STEEL STRUCTURES**				
E 2.81		150mm wide cable ladder - straight	m	10		
E 2.8.2		150mm wide cable ladder - elbow	Ea.	2		
E 2.8.3		150mm wide cable ladder - dropper / riser	Ea.	1		
E 2.8.4		150mm wide cable ladder covers	m	10		
E 2.9		**SUPPLY AND DELIVERY OF TRENCH: EXCAVATION AND BACKFILLING OF CABLE TRENCHES, PIPE CROSSINGS AND ROAD CROSSINGS**				
E 2.9.1		Trench and backfill 300mm wide x 500mm deep with one layer of protective tiles and warning tape as per Electrical Medium and Low Voltage Cable installation specification.	m	300		
E 2.9.2		Trench and backfill 150mm wide x 500mm deep with one layer of protective tiles and warning tape as per Electrical Medium and Low Voltage Cable installation specification..	m	320		
E 2.9.3		Excavate and backfill Road Crossings, including installation of sleeves. (Road Paving by others) as per Electrical Medium and Low Voltage Cable installation specification.	Ea.	2		
E 2.9.4		Cable Route Marker Posts as per specification.	Prov.	Sum		
E 2		**SUPPLY AND DELIVERY OF ELECTRICAL WORKS**				
E 2.1		**SUNDRIES**				
E 2.11.1		Substation signage as per the requirements of Electrical Machinery Regulation No.4 of the Occupational Health & Safety Act of SA	Prov.	Sum		
E 2.11.2		A0 Frames for mounting drawings in sub-station.	Ea.	1		
E 2.11		**COMMISSIONING**				
E 2.11.1		Commissioning Spares	Prov.	Sum		
E 2.11.2		Commissioning Assistance	Hours	40		
E 2.12		**DOCUMENTATION CERTIFICATES, MANUALS AND QA**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.12.1		Certificate of Compliance	Prov.	Sum		
E 2.12.2		QA documentation for all equipment supplied	Prov.	Sum		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.13		**INSTALLATION, TESTING AND COMMISSIONING OF NEW MAJOR ELECTRICAL EQUIPMENT**				
E 2.13.1		**MV SWITCHGEAR AS PER DATASHEET**				
E 2.13.1.1	PSY2.1.7	Unit 5 Module 2 Bioreactor Substation 11kV Switchgear (Datasheet: JW13898-E-007-1)	Ea.	1		
E 2.13.1.2	PSY2.1.3	Unit 5 Main Intake Substation Incomer Extension cubicle to existing Switchgear Actom SBV4/800/25/Si (Datasheet: JW13898-E-007-2)	Ea.	1		
E 2.13.1.3	PSY2.1.7	Unit 5 Module 2 Substation Battery Tripping Unit	Ea.	1		
E 2.13.2		**TRANSFORMER AS PER DATASHEET**				
E 2.13.2.1	PSY2.1.3	1600kVA, Dual-Wound, 0.4/6.6-11kV Step Up Transformer (Datasheet:: JW13898-E-013-2)	Ea.	1		
E 2.13.2.2	PSY2.1.7	630kVA, Dual-Wound, 11-6.6/0.4 kV Step Down Transformer (Datasheet:: JW13898-E-013-1)	Ea.	4		
E 2.13.2.3	PSY2.1.1	11kV, 20A, 3s Neutral Earthing Resistor for 1600kVA Step Up Transformer	Ea.	1		
E 2.13.3		**GENERATORS AS PER DATASHEETS AND SPECIFICATION**				
E 2.13.3.1	PSY2.1.2	1600kVA (Prime) Diesel Generator with bulk storage fuel system and all control and interface cables. (Datasheet: JW13898-E-010-1)	Ea.	1		
E 2.13.3.2	PSY2.1.4	315kVA (Prime) Diesel Generator with bulk storage fuel system and all control and interface cables. (Datasheet: JW13898-E-010-2)	Ea.	1		
E 2.13.3.1.2	PSY2.1.4	Admin Building Changeover Panel - Distribution Board (Datasheet: JW13898-E-007-1)	Ea.	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.13.4	PSY2.1.7	**BIOREACTOR MOTOR CONTROL CENTRE AS PER DATASHEETS AND SPECIFICATION**				
E 2.13.4.1		New Unit 5 Module 2 Bioreactor Motor Control Centre (5E2-MCC-01) (Datasheet: JW13898-E-002-1)	Ea.	1		
E 2.13.4.2		Ventilation fan for the MCC Room (3-phase, 400V, 0.55kW, 2880rpm, with air quantity of 500l/s @ 200pa)	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.13.5	PSY2.1.5	**EQUIP EXISTING BALANCING TANK MOTOR CONTROL CENTRE**				
E 2.13.5.1		Equip Existing Balancing Tank and PST MCC with 0.55kW PST Bridge Drive DOL Starter	Ea.	2		
E 2.13.5.2		Equip Existing Balancing Tank and PST MCC with 11kW DOL Starter	Ea.	6		
E 2.13.5.3		Equip Existing Balancing Tank and PST Instrument DB with 6A, 3Pole miniature circuit breaker Valve Feeder	Ea.	2		
E 2.13.6	PSY2.1.10	**EQUIP EXISTING WST MOTOR CONTROL CENTRE**				
E 2.13.6.1		Equip Existing WST MCC with Thickener Drive 0.55kW DOL Starter	Ea.	1		
E 2.13.6.2		Equip Existing WST Instrument DB with 6A, 3Pole miniature circuit breaker Valve Feeder	Ea.	1		
E 2.13.7	PSY2.1.8	**EQUIP EXISTING HYPOCHLORITE MOTOR CONTROL CENTRE**				
E 2.13.7.1		Equip Existing Hypochlorite MCC with 0.75kW VSD Starter	Ea.	1		
E 2.13.8	PSY2.1.11	**EQUIP EXISTING WAS PUMPSTATION MOTOR CONTROL CENTRE**				
E 2.13.8.1		Equip Existing WAS Pump station MCC with 22kW DOL Starter	Ea.	1		
E 2.13.9	PSY2.1.6	**NEW AND EXSTING ELUTRIATION/FERMENTATION MOTOR CONTROL CENTRE**				
E 2.13.9.1		Equip Existing Elutriation Pump station MCC with 18.5kW DOL Starter	Ea.	3		
E 2.13.9.2		Equip Existing Elutriation Pump station MCC with 5.5kW DOL Starter	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.13.9.3		Equip Existing Elutriation Pump station MCC with 11kW DOL Starter	Ea.	2		
E 2.13.9.4		Unit 5 New Fermentation Motor Control Centre (Datasheet: JW13898-E-002-1)	Ea.	1		
E 2.13.9.5		Ventilation fan for the MCC Room (3-phase, 400V, 0.55kW, 2880rpm, with air quantity of 500l/s @ 200pa)	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.13.10	PSY2.1.14	**SMALL POWER DISTRIBUTION BOARDS AS PER DATASHEET**				
E 2.13.10.1		Unit 5 Module 2 SP&L DB (Datasheet: JW13898-E-002-2)	Ea.	1		
E 2.13.10.2		Unit 5 Elutriation Pump Station SP&L DB (Datasheet: JW13898-E-002-2)	Ea.	1		
E 2.13.11		**INSTRUMENT DISTRIBUTION BOARDS AS PER DATASHEET**				
E 2.13.11.1		Unit 5 Bioreactor 2 Instrument DB (Datasheet: JW13898-E-002-3)	Ea.	1		
E 2.13.11.2		Unit 5 Elutriation Pump Station Instrument DB (Datasheet: JW13898-E-002-3)	Ea.	1		
E 2.13.12	PSY2.1.7	**EQUIPING EXISTING INSTRUMENT DISTRIBUTION BOARDS AS PER SPECIFICATION**				
E 2.13.12.1		Equipping the existing PST and Balancing Tank Instrument DB with 2A, 2pole miniature circuit breakers	Ea.	5		
E 2.13.12.2		Equipping the existing Hypochlorite Instrument DB with 2A, 2pole miniature circuit breaker	Ea.	1		
E 2.13.12.3		Equipping the existing Unit 5 Bioreactor 1 Analyser Room Instrument DB with 2A, 2pole miniature circuit breakers	Ea.	8		
E 2.13.12.3		Equipping the existing Final Effluent Analyser Room Instrument DB with 2A, 2pole miniature circuit breakers	Ea.	9		
E 2.13.13		**ELECTRICAL ISOLATOR PUSHBUTTON STATION (LOCAL START/STOP) EQUIPMENT**				
E 2.13.13.1		0.37kW to 30kW (DOL Motor Station) 63A Isolator	Ea.	60		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.13.13.2		37kW to 75kW (DOL Motor Station) 160A Isolator	Ea.	4		
E 2.13.13.3		90kW to 110kW (Star-Delta Motor Station) 200A Isolator	Ea.	9		
E 2.14	PSY2.1.13	**EARTHING AND LIGHTNING PROTECTION**				
E 2.14.1		Earthing and Lightning Protection for Bioreactor Substation and MCC by specialist	Prov.	Sum		R 500,000.00
E 2.14.2		Earthing and Lightning Protection for New Elutriation Pump station and MCC Room by specialist	Prov.	Sum		R 150,000.00
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.15		**INSTALLATION, TESTING AND COMMISSIONING OF SMALL POWER AND LIGHTING**				
E 2.15.1	PSY2.1.12	**AREA LIGHTING**				
E 2.15.1.1		High mast pole - 20 meters tall, mid-hinged type, galvanised steel construction (including allowance for supply and installation of concrete plinths). Pole to be designed to support 8 off 400 W LED floodlights. Masts to include DB as per drawing ING0645D-5E2-SM04	Ea.	3		
E 2.15.1.2		400 W LED Floodlight (IP65 ingress protection, wide beam, hail proof, corrosion proof and vandal resistant) complete with mounting accessories, mounted on high mast poles	Ea.	24		
E 2.15.1.3		Provision to move existing Fermentation/Elutriation fixed approximately 25m High Mast	Ea.	1		
E 2.15.2		**LUMINAIRES**				
E 2.15.2.1		2 x 58W industrial fluorescent with Polycarbonate diffuser and Electronic Control Gear, IP65 ingress protection complete with mounting accessories	Ea.	18		
E 2.15.2.2		2 x 58W industrial fluorescent with Polycarbonate diffuser and Electronic Control Gear and built in emergency back-up - 1hour with 100% light output, IP65 ingress protection complete with mounting accessories	Ea.	4		
E 2.15.2.3		80W High Pressure Sodium Bulk heads, IP65 ingress protection complete with mounting accessories	Ea.	6		
E 2.15.3		**CONDUITS AND WIRING**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.15.3.1		25 mm Bosal (Galvanised Steel) conduit (c/w with mounting saddles and mounting accessories for surface mounting)	Ea.	90		
E 2.15.3.2		40 mm Bosal (Galvanised Steel) conduit (c/w with mounting saddles and mounting accessories for surface mounting)	Ea.	30		
E 2.15.3.3		2-way conduit round boxes fitted with 5A socket outlet for luminaire plug tops	Ea.	0		
E 2.15.2.4		3-way conduit round boxes (Galvanised Steel) for 25mm conduit	Ea.	6		
E 2.15.3.5		3-way conduit round boxes for (Galvanised Steel) for 40mm conduit	Ea.	0		
E 2.15.3.6		4mm² PVC wire to SANS 1411, installed in conduit	m	420		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.15.3.7		2.5mm² PVC wire to SANS 1411, installed in conduit	m	600		
E 2.15.4		**SWITCHES AND SOCKET OUTLETS**				
E 2.15.4.1		Surface Mounted 16 A industrial type switch socket outlet	Ea.	6		
E 2.15.4.2		Surface Mounted 63 A welding socket outlet, 5-pin round type, IP44	Ea.	4		
E 2.15.4.3		Surface Mounted 1-way industrial light switch	Ea.	1		
E 2.15.4.4		Surface Mounted 2-way industrial type light switch	Ea.	6		
E 2.15.4.5		Surface Mounted industrial type 16A double pole isolator	Ea.	0		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.16	PSY2.1.15	**INSTALLATION, TESTING AND COMMISSIONING OF XLPE INSULATED, PVC BEDDED, STEEL WIRE ARMOURED, PVC SHEATHED 6.35/11kV CABLES TO SANS 1339 TYPE A**				
	PSY2.1.7	**BIOREACTOR PRIMARY MEDIUM VOLTAGE CABLE**				
E 2.16.1		**Cable from Bioreactor 1 Substation to Bioreactor 2 Substation**				
E 2.16.1.1		Power cable 120mm² 3-Core XLPE Cable	m	300		
E 2.16.1.2		120mm² 3-Core Copper Cable terminations	Ea.	4		
E 2.16.1.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	300		
E 2.16.1.4		95mm² Clear Insulated KWENA termination kit	Ea.	4		
TOTAL BROUGHT FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
	PSY2.1.1	**UPGRADE OF UNIT 5 MAIN INTAKE SUB FEEDER CABLES**				
E 2.16.2		**Main Intake Sub to Unit 5 Intake Sub - Incomer CB2**				
E 2.16.2.1		Power cable 150mm² 3-Core XLPE Cable	m	1000		
E 2.16.2.2		150mm² 3-Core Copper Cable terminations	Ea.	8		
E 2.16.2.3		150mm² 3-Core Copper Cable splice kits	Ea.	6		
E 2.16.2.4		Earth cable 95mm² Clear Insulated KWENA Cable	m	1000		
E 2.16.2.5		95mm² Clear Insulated KWENA termination kit	Ea.	8		
E 2.16.2.6		95mm² Clear Insulated KWENA splice kits	Ea.	6		
E 2.16.3		**Main Intake Sub to Unit 5 Intake Sub - Incomer CB6**				
E 2.16.3.1		Power cable 150mm² 3-Core XLPE Cable	m	1000		
E 2.16.3.2		150mm² 3-Core Copper Cable terminations	Ea.	8		
E 2.16.3.3		150mm² 3-Core Copper Cable splice kits	Ea.	14		
E 2.16.3.4		Earth cable 95mm² Clear Insulated KWENA Cable	m	1000		
E 2.16.3.5		95mm² Clear Insulated KWENA termination kit	Ea.	8		
E 2.16.3.6		95mm² Clear Insulated KWENA splice kits	Ea.	14		
E 2.16.4		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 1**				
E 2.16.4.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.16.4.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.16.4.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.16.4.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.16.5		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 2**				
E 2.16.5.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.16.5.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.16.5.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.16.5.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.16.6		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 3**				
E 2.16.6.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
E 2.16.6.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.16.6.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.16.6.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.16.7		**Bioreactor 2 MV Switchgear to Unit 5 Transformer 4**				
E 2.16.7.1		Power cable 120mm² 3-Core XLPE Cable	m	25		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.16.7.2		120mm² 3-Core Copper Cable terminations	Ea.	2		
E 2.16.7.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	25		
E 2.16.7.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.17	PSY2.1.3	**INSTALLATION, TESTING AND COMMISSIONING OFLOW VOLTAGE RESIN ENCAPSULATED BUSBAR ACCORDING TO IEC60431 and IEC 60331-21**				
E 2.17.1		**Bio-Reactor Busbar trunking from Transformer to MCC**	Lot	1		
E 2.17.1.1		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 1 to Bio-Reactor 2 MCC1	Lot	1		
E 2.17.1.2		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 2 to Bio-Reactor 2 MCC2	Lot	1		
E 2.17.1.3		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 3 to Bio-Reactor 2 MCC3	Lot	1		
E 2.17.1.4		1600A, 3ph + N + E copper resin encapsulated busbar trunking system from Bio-Reactor 2 Transformer 4 to Bio-Reactor 2 MCC4	Lot	1		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18		**INSTALLATION, TESTING AND COMMISSIONING OF PVC INSULATED, PVC BEDDED, STEEL WIRE ARMOURED, PVC SHEATHED 600/1000V FLAME RETARDANT (RED STRIPE) CABLES TO SANS 1507-3 AND SANS 60332**				
		BALANCING AND PRIMARY SETTLING TANK CABLES				
E 2.18.1		**5M6ME07 - PST5 Bridge Drive**				
E 2.18.1.1		Power cable 2.5mm² 4-Core Copper Cable	m	135		
E 2.18.1.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.1.3		Control Cable 2.5mm² 12-Core Copper Cable	m	130		
E 2.18.1.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.2		**5M6ME08 - PST6 Bridge Drive**				
E 2.18.2.1		Power cable 2.5mm² 4-Core Copper Cable	m	95		
E 2.18.2.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.2.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.18.2.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.3		**5M7ME10 - Balancing Tank 2 Mixer 1**				
E 2.18.3.1		Power cable 2.5mm² 4-Core Copper Cable	m	145		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.3.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.3.3		Control Cable 2.5mm² 12-Core Copper Cable	m	140		
E 2.18.3.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.4		**5M7ME11 - Balancing Tank 2 Mixer 2**				
E 2.18.4.1		Power cable 2.5mm² 4-Core Copper Cable	m	125		
E 2.18.4.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.4.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.18.4.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.5		**5M7ME12 - Balancing Tank 2 Mixer 3**				
E 2.18.5.1		Power cable 2.5mm² 4-Core Copper Cable	m	125		
E 2.18.5.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.5.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.18.5.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.6		**5M7ME13 - Balancing Tank 2 Mixer 4**				
E 2.18.6.1		Power cable 6mm² 4-Core Copper Cable	m	105		
E 2.18.6.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.6.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.6.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.7		**5M7ME14 - Balancing Tank 2 Mixer 5**				
E 2.18.7.1		Power cable 6mm² 4-Core Copper Cable	m	105		
E 2.18.7.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.7.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.7.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.8		**5M7ME15 - Balancing Tank 2 Mixer 6**				
E 2.18.8.1		Power cable 6mm² 4-Core Copper Cable	m	85		
E 2.18.8.2		6mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.8.3		Control Cable 2.5mm² 12-Core Copper Cable	m	80		
E 2.18.8.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.9		**5M6ME09 - PST5 Underflow Valve**				
E 2.18.9.1		Power cable 2.5mm² 4-Core Copper Cable	m	90		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.9.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.10		**5M6ME10 - PST6 Underflow Valve**				
E 2.18.10.1		Power cable 2.5mm² 4-Core Copper Cable	m	90		
E 2.18.10.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.11		**5M7ME16 - Balancing Tank 2 Outlet Sluice Gate**				
E 2.18.11.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.18.11.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.12		**5M7ME17 - Balancing Tank 2 Inlet Sluice Gate**				
E 2.18.12.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.18.12.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
	PSY2.1.6	**ELUTRIATION CABLES**				
E 2.18.13		**5M8ME08 - Effluent Pump 01**				
E 2.18.13.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.18.13.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.13.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.18.13.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.14		**5M8ME09 - Effluent Pump 02**				
E 2.18.14.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.18.14.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.14.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.18.14.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.15		**5M8ME19 - Effluent Pump 03**				
E 2.18.15.1		Power cable 10mm² 4-Core Copper Cable	m	35		
E 2.18.15.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.15.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.18.15.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.16		**5M8ME05 - Sludge Recycle Pump 01**				
E 2.18.16.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.18.16.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.16.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.16.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.17		**5M8ME06 - Sludge Recycle Pump 02**				
E 2.18.17.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.18.17.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.17.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.18.17.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.18		**5M8ME07 - Transfer Pump 01**				
E 2.18.18.1		Power cable 4mm² 4-Core Copper Cable	m	30		
E 2.18.18.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.18.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.18.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.19		**5M8ME08 - Transfer Pump 02**				
E 2.18.19.1		Power cable 4mm² 4-Core Copper Cable	m	30		
E 2.18.19.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.19.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.19.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.20		**5M8ME17 - Thickener 2 Bridge Drive**				
E 2.18.20.1		Power cable 2.5mm² 4-Core Copper Cable	m	60		
E 2.18.20.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.20.3		Control Cable 2.5mm² 12-Core Copper Cable	m	55		
E 2.18.20.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.21		**5M8ME18 - Elutriation Mixer**				
E 2.18.21.1		Power cable 10mm² 4-Core Copper Cable	m	40		
E 2.18.21.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.21.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.18.21.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.22		**5M8ME24 - Effluent Pump 04**				
E 2.18.22.1		Power cable 2.5mm² 4-Core Copper Cable	m	40		
E 2.18.22.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.22.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.22.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.23		**5M8ME25 - Effluent Pump 05**				
E 2.18.23.1		Power cable 2.5mm² 4-Core Copper Cable	m	40		
E 2.18.23.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.23.3		Control Cable 2.5mm² 12-Core Copper Cable	m	35		
E 2.18.23.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.24		**5M8ME26 - Effluent Pump 06**				
E 2.18.24.1		Power cable 2.5mm² 4-Core Copper Cable	m	35		
E 2.18.24.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.24.3		Control Cable 2.5mm² 12-Core Copper Cable	m	30		
E 2.18.24.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.25		**5M8ME20 - Sludge Recycle Pump 03**				
E 2.18.25.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.25.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.25.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.25.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.26		**5M8ME201- Sludge Recycle Pump 04**				
E 2.18.26.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.26.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.26.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.26.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.27		**5M8ME22 - Transfer Pump 03**				
E 2.18.27.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.27.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.27.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.27.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.28		**5M8ME23 - Transfer Pump 04**				
E 2.18.28.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.18.28.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.28.3		Control Cable 2.5mm² 12-Core Copper Cable	m	15		
E 2.18.28.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.29		**5M8ME28 - Sump Pump**				
E 2.18.29.1		Power cable 2.5mm² 4-Core Copper Cable	m	25		
E 2.18.29.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.29.3		Control Cable 2.5mm² 12-Core Copper Cable	m	20		
E 2.18.29.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.30		**5M8ME - Elutriation Instrument DB**				
E 2.18.30.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.18.30.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.30.3		Earth cable 16mm² Clear Insulated KWENA Cable	m	20		
E 2.18.30.4		16mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.18.31		**5M8ME - Elutriation SP&L DB**				
E 2.18.31.1		Power cable 25mm² 4-Core Copper Cable	m	20		
E 2.18.31.2		25mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.31.3		Earth cable 16mm² Clear Insulated KWENA Cable	m	20		
E 2.18.31.4		16mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.18.32		**5M8MCC02 - Elutriation MCC Supply Cable**				
E 2.18.32.1		Power cable 95mm² 4-Core Copper Cable	m	65		
E 2.18.32.2		95mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.32.3		Earth cable 95mm² Clear Insulated KWENA Cable	m	65		
E 2.18.32.4		95mm² Clear Insulated KWENA termination kit	Ea.	2		
E 2.18.33		**5M8ME29 - Sludge Recirculation Valve**				
E 2.18.33.1		Power cable 2.5mm² 4-Core Copper Cable	m	160		
E 2.18.33.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.34		**5M8ME18 - Sludge Recirculation Pump 5**				
E 2.18.34.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.34.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.34.3		Control Cable 2.5mm² 12-Core Copper Cable	m	25		
E 2.18.34.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.35		**5M8ME01 - Odour Control Recirculating Pump**				
E 2.18.35.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.35.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.35.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.35.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.36		**5M8ME02 - Odour Control Effluent Pump**				
E 2.18.36.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.18.36.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.36.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.36.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.37		**5M8ME03 - Odour Control Blower**				
E 2.18.37.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.18.37.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.37.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.37.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.38		**5M8ME04 - Odour Control Nutrient solution Mixer**				
E 2.18.38.1		Power cable 2.5mm² 4-Core Copper Cable	m	105		
E 2.18.38.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.38.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.38.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
	PSY2.1.7	**MODULE 2 BIOREACTOR LV CABLES**				
E 2.18.39		**5M2ME01 - Mixer 1**				
E 2.18.39.1		Power cable 10mm² 4-Core Copper Cable	m	95		
E 2.18.39.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.39.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.18.39.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.40		**5M2ME05 - Mixer 5**				
E 2.18.40.1		Power cable 10mm² 4-Core Copper Cable	m	125		
E 2.18.40.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.40.3		Control Cable 2.5mm² 12-Core Copper Cable	m	120		
E 2.18.40.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.37		**5M2ME09 - Mixer 9**				
E 2.18.37.1		Power cable 25mm² 4-Core Copper Cable	m	160		
E 2.18.37.2		25mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.37.3		Power cable (from S/S Station to Motor) 10mm² 4-Core Copper Cable	m	5		
E 2.18.37.4		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.37.5		Control Cable 2.5mm² 12-Core Copper Cable	m	160		
E 2.18.37.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.38		**5M2ME10 - Aerator 1**				
E 2.18.38.1		Power cable 150mm² 4-Core Aluminium Cable	m	580		
E 2.18.38.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.38.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.38.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.38.5		Control Cable 2.5mm² 19-Core Copper Cable	m	145		
E 2.18.38.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.39		**5M2ME14 - Aerator 5**				
E 2.18.39.1		Power cable 95mm² 4-Core Aluminium Cable	m	740		
E 2.18.39.2		95mm² 4-Core Aluminium Cable terminations	Ea.	16		
E 2.18.39.3		Control Cable 2.5mm² 19-Core Copper Cable	m	180		
E 2.18.39.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.40		**5M2ME10 - Aerator 9**				
E 2.18.40.1		Power cable 150mm² 4-Core Aluminium Cable	m	860		
E 2.18.40.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.40.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.40.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.40.5		Control Cable 2.5mm² 19-Core Copper Cable	m	215		
E 2.18.40.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.41		**5M2ME24 - Mixed Liquor Pump 1**				
E 2.18.41.1		Power cable 2.5mm² 4-Core Copper Cable	m	80		
E 2.18.41.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.41.3		Control Cable 2.5mm² 12-Core Copper Cable	m	75		
E 2.18.41.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.42		**5M2ME28 - Clarifier 1 Bridge Drive**				
E 2.18.42.1		Power cable 2.5mm² 4-Core Copper Cable	m	345		
E 2.18.42.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.42.3		Control Cable 2.5mm² 12-Core Copper Cable	m	340		
E 2.18.42.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.43		**5M2ME02 - Mixer 2**				
E 2.18.43.1		Power cable 10mm² 4-Core Copper Cable	m	80		
E 2.18.43.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.43.3		Control Cable 2.5mm² 12-Core Copper Cable	m	75		
E 2.18.43.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.44		**5M2ME02 - Mixer 6**				
E 2.18.44.1		Power cable 10mm² 4-Core Copper Cable	m	110		
E 2.18.44.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.44.3		Control Cable 2.5mm² 12-Core Copper Cable	m	105		
E 2.18.44.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.45		**5M2ME11 - Aerator 2**				
E 2.18.45.1		Power cable 120mm² 4-Core Aluminium Cable	m	620		
E 2.18.45.2		120mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.45.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.45.4		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.45.5		Control Cable 2.5mm² 19-Core Copper Cable	m	160		
E 2.18.45.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.46		**5M2ME15 - Aerator 6**				
E 2.18.46.1		Power cable 150mm² 4-Core Aluminium Cable	m	780		
E 2.18.46.2		150mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.46.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.46.4		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.46.5		Control Cable 2.5mm² 19-Core Copper Cable	m	195		
E 2.18.46.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.47		**5M2ME19 - Mixer 10**				
E 2.18.47.1		Power cable 70mm² 4-Core Aluminium Cable	m	225		
E 2.18.47.2		70mm² 4-Core Aluminium Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.47.3		Power cable (from S/S Station to Motor) 25mm² 4-Core Aluminium Cable	m	5		
E 2.18.47.4		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.47.5		Control Cable 2.5mm² 19-Core Copper Cable	m	225		
E 2.18.47.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.48		**5M2ME19 - Mixer 10**				
E 2.18.48.1		Power cable 70mm² 4-Core Aluminium Cable	m	225		
E 2.18.48.2		70mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.48.3		Power cable (from S/S Station to Motor) 25mm² 4-Core Aluminium Cable	m	5		
E 2.18.48.4		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.48.5		Control Cable 2.5mm² 19-Core Copper Cable	m	225		
E 2.18.48.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.49		**5M2ME20 - Aerator 10**				
E 2.18.49.1		Power cable 95mm² 4-Core Aluminium Cable	m	1000		
E 2.18.49.2		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.49.3		Control Cable 2.5mm² 19-Core Copper Cable	m	245		
E 2.18.49.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.50		**5M2ME23 - Aerator 13**				
E 2.18.50.1		Power cable 120mm² 4-Core Aluminium Cable	m	240		
E 2.18.50.2		120mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.50.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.18.50.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.50.5		Control Cable 2.5mm² 12-Core Copper Cable	m	240		
E 2.18.50.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.51		**5M2ME25 - Mixed Liquor Pump 2**				
E 2.18.51.1		Power cable 95mm² 4-Core Aluminium Cable	m	85		
E 2.18.51.2		95mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.51.3		Control Cable 2.5mm² 19-Core Copper Cable	m	80		
E 2.18.51.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.52		**5M2ME29 - Clarifier 2 Bridge Drive**				
E 2.18.52.1		Power cable 4mm² 4-Core Copper Cable	m	365		
E 2.18.52.2		4mm² 4-Core Copper Cable terminations	Ea.	4		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.52.3		Control Cable 2.5mm² 12-Core Copper Cable	m	360		
E 2.18.52.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.53		**5M2ME03 - Mixer 3**				
E 2.18.53.1		Power cable 10mm² 4-Core Copper Cable	m	95		
E 2.18.53.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.53.3		Control Cable 2.5mm² 12-Core Copper Cable	m	90		
E 2.18.53.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.54		**5M2ME07 - Mixer 7**				
E 2.18.54.1		Power cable 16mm² 4-Core Copper Cable	m	135		
E 2.18.54.2		16mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.54.3		Control Cable 2.5mm² 12-Core Copper Cable	m	130		
E 2.18.54.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.55		**5M2ME15 - Aerator 3**				
E 2.18.55.1		Power cable 150mm² 4-Core Aluminium Cable	m	700		
E 2.18.55.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.55.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.55.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.55.5		Control Cable 2.5mm² 19-Core Copper Cable	m	175		
E 2.18.55.5		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.56		**5M2ME16 - Aerator 7**				
E 2.18.56.1		Power cable 150mm² 4-Core Aluminium Cable	m	840		
E 2.18.56.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.56.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.56.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.56.5		Control Cable 2.5mm² 19-Core Copper Cable	m	210		
E 2.18.56.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.57		**5M2ME21 - Aerator 11**				
E 2.18.57.1		Power cable 120mm² 4-Core Aluminium Cable	m	260		
E 2.18.57.2		120mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.57.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.18.57.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.57.5		Control Cable 2.5mm² 19-Core Copper Cable	m	260		
E 2.18.57.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.58		**5M2ME26 - Mixed Liquor Pump 3**				
E 2.18.58.1		Power cable 70mm² 4-Core Copper Cable	m	455		
E 2.18.58.2		70mm² 4-Core Copper Cable terminations	Ea.	6		
E 2.18.58.3		Control Cable 2.5mm² 12-Core Copper Cable	m	225		
E 2.18.58.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.59		**5M2ME30 - Clarifier 3 Bridge Drive**				
E 2.18.59.1		Power cable 4mm² 4-Core Copper Cable	m	385		
E 2.18.59.2		4mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.59.3		Control Cable 2.5mm² 12-Core Copper Cable	m	380		
E 2.18.59.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.60		**5M2ME31 - Screw Pump 1**				
E 2.18.60.1		Power cable 70mm² 4-Core Aluminium Cable	m	555		
E 2.18.60.2		70mm² 4-Core Aluminium Cable terminations	Ea.	6		
E 2.18.60.3		Control Cable 2.5mm² 12-Core Copper Cable	m	275		
E 2.18.60.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.61		**5M2ME35 - Screw 1 Grease Pump**				
E 2.18.61.1		Power cable 10mm² 3-Core Aluminium Cable	m	275		
E 2.18.61.2		10mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.18.61.3		Power cable 4mm² 3-Core Aluminium Cable	m	5		
E 2.18.61.4		4mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.18.62		**5M2ME34 - Effluent Sample Pump 1**				
E 2.18.62.1		Power cable 4mm² 4-Core Aluminium Cable	m	105		
E 2.18.62.2		4mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.62.3		Control Cable 2.5mm² 12-Core Copper Cable	m	100		
E 2.18.62.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.63		**5M1ME40 - Chemical Dosing Pump 3**				
E 2.18.63.1		Power cable 2.5mm² 4-Core Aluminium Cable	m	280		
E 2.18.63.2		2.5mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.63.3		Control Cable 2.5mm² 12-Core Copper Cable	m	275		
E 2.18.63.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.64		**5M2ME04 - Mixer 4**				
E 2.18.64.1		Power cable 16mm² 4-Core Copper Cable	m	110		
E 2.18.64.2		16mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.64.3		Power cable (from S/S Station to Motor) 6mm² 4-Core Copper Cable	m	5		
E 2.18.64.4		6mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.64.5		Control Cable 2.5mm² 12-Core Copper Cable	m	110		
E 2.18.64.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.65		**5M2ME08 - Mixer 8**				
E 2.18.65.1		Power cable 25mm² 4-Core Aluminium Cable	m	145		
E 2.18.65.2		25mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.65.3		Power cable (from S/S Station to Motor) 10mm² 4-Core Aluminium Cable	m	5		
E 2.18.65.4		10mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.65.5		Control Cable 2.5mm² 12-Core Copper Cable	m	140		
E 2.18.65.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.66		**5M2ME13 - Aerator 4**				
E 2.18.66.1		Power cable 150mm² 4-Core Aluminium Cable	m	800		
E 2.18.66.2		150mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.66.3		Power cable (from S/S Station to Motor) 95mm² 4-Core Aluminium Cable	m	20		
E 2.18.66.4		95mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.66.5		Control Cable 2.5mm² 19-Core Copper Cable	m	200		
E 2.18.66.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.67		**5M2ME13 - Aerator 8**				
E 2.18.67.1		Power cable 185mm² 4-Core Aluminium Cable	m	960		
E 2.18.67.2		185mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.67.3		Power cable (from S/S Station to Motor) 120mm² 4-Core Aluminium Cable	m	20		
E 2.18.67.4		120mm² 4-Core Aluminium Cable terminations	Ea.	8		
E 2.18.67.5		Control Cable 2.5mm² 19-Core Copper Cable	m	235		
E 2.18.67.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.68		**5M2ME22 - Aerator 12**				
E 2.18.68.1		Power cable 150mm² 4-Core Aluminium Cable	m	255		
E 2.18.68.2		150mm² 4-Core Aluminium Cable terminations	Ea.	4		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.68.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	20		
E 2.18.68.4		50mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.68.5		Control Cable 2.5mm² 19-Core Copper Cable	m	255		
E 2.18.68.6		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
E 2.18.69		**5M2ME27 - Mixed Liquor Pump 4**				
E 2.18.69.1		Power cable 70mm² 4-Core Aluminium Cable	m	460		
E 2.18.69.2		70mm² 4-Core Aluminium Cable terminations	Ea.	4		
E 2.18.69.3		Power cable (from S/S Station to Motor) 50mm² 4-Core Aluminium Cable	m	5		
E 2.18.69.4		50mm² 4-Core Aluminium Cable terminations	Ea.	2		
E 2.18.69.5		Control Cable 2.5mm² 12-Core Copper Cable	m	230		
E 2.18.69.6		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
E 2.18.70		**5M2ME36 - Screw 2 Grease Pump**				
E 2.18.70.1		Power cable 10mm² 3-Core Aluminium Cable	m	275		
E 2.18.70.2		10mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.18.70.3		Power cable 4mm² 3-Core Aluminium Cable	m	5		
E 2.18.70.4		4mm² 3-Core Aluminium Cable terminations	Ea.	2		
E 2.18.71		**5M2ME33 - WAS Flow Control Valve**				
E 2.18.71.1		Power cable 2.5mm² 4-Core Copper Cable	m	100		
E 2.18.71.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.72		**PLC80**				
E 2.18.72.1		Power cable 10mm² 4-Core Copper Cable	m	20		
E 2.18.72.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.72.3		Power cable 6mm² Clear Insulated KWENA Cable	m	20		
E 2.18.72.4		6mm² Clear Insulated KWENA Cable termination	Ea.	2		
E 2.18.73		**Bioreactor Instrument DB**				
E 2.18.73.1		Power cable 10mm² 4-Core Copper Cable	m	25		
E 2.18.73.2		10mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.73.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	20		
E 2.18.73.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.18.74		**Bioreactor MCC Room SP&L DB**				
E 2.18.74.1		Power cable 16mm² 4-Core Copper Cable	m	20		
E 2.18.74.2		16mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.74.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	20		
E 2.18.74.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.18.75	PSY2.1.12	**High Mast Light 01**				
E 2.18.75.1		Power cable 10mm² 4-Core Copper Cable	m	120		
E 2.18.75.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.75.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	120		
E 2.18.75.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.18.76	PSY2.1.12	**High Mast Light 02**				
E 2.18.76.1		Power cable 10mm² 4-Core Copper Cable	m	240		
E 2.18.76.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.76.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	240		
E 2.18.76.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
E 2.18.77	PSY2.1.12	**High Mast Light 03**				
E 2.18.77.1		Power cable 10mm² 4-Core Copper Cable	m	360		
E 2.18.77.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.77.3		Earth cable 10mm² Clear Insulated KWENA Cable	m	360		
E 2.18.77.4		10mm² Clear Insulated KWENA Cable terminations	Ea.	2		
	PSY2.1.8	**HYPOCHLORITE CABLES**				
E 2.18.78		**5M5ME03 - Chemical Dosing Pump3**				
E 2.18.78.1		Power cable 2.5mm² 4-Core Copper Cable	m	55		
E 2.18.78.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.78.3		Control Cable 2.5mm² 19-Core Copper Cable	m	50		
E 2.18.78.4		2.5mm² 19-Core Copper Cable terminations	Ea.	2		
	PSY2.1.10	**WASTE SLUDGE THICKENER**				
E 2.18.79		**5M9ME11 - WST2 Thickener Drive**				
E 2.18.79.1		Power cable 2.5mm² 4-Core Copper Cable	m	305		
E 2.18.79.2		2.5mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.79.3		Control Cable 2.5mm² 12-Core Copper Cable	m	300		
E 2.18.79.4		2.5mm² 12-Core Copper Cable terminations	Ea.	2		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.18.80		**5M9ME10 - WST2 Underflow Valve**				
E 2.18.80.1		Power cable 2.5mm² 4-Core Copper Cable	m	305		
E 2.18.80.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
	PSY2.1.11	**WAS PUMPSTATION CABLES**				
E 2.18.81		**5M9ME09 - WAS Pump 3**				
E 2.18.81.1		Power cable 10mm² 4-Core Copper Cable	m	45		
E 2.18.81.2		10mm² 4-Core Copper Cable terminations	Ea.	4		
E 2.18.81.3		Control Cable 10mm² 12-Core Copper Cable	m	40		
E 2.18.81.4		10mm² 12-Core Copper Cable terminations	Ea.	2		
		VENTILATION FAN CABLES				
E 2.18.82		**Ventilation Fan 01**				
E 2.18.82.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.18.82.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.83		**Ventilation Fan 02**				
E 2.18.83.1		Power cable 2.5mm² 4-Core Copper Cable	m	20		
E 2.18.83.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.84		**Ventilation Fan 03**				
E 2.18.84.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.84.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2.18.85		**Ventilation Fan 04**				
E 2.18.85.1		Power cable 2.5mm² 4-Core Copper Cable	m	30		
E 2.18.85.2		2.5mm² 4-Core Copper Cable terminations	Ea.	2		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.19	PSY2.1.16	**INSTALLATION, TESTING AND COMMISSIONING OF ORANGE POWDER COATED 304 STAINLESS STEEL HEAVY DUTY CABLE LADDER, COMPLETE WITH UNISTRUT SUPPORT BRACKETS AND FIXING MATERIALS**				
E 2.19.1		1000mm wide cable ladder - straight	m	700		
E 2.19.2		1000mm wide cable ladder - elbow	Ea.	56		
E 2.19.3		1000mm wide cable ladder - dropper / riser	Ea.	11		
E 2.19.4		1000mm cable ladder covers	m	55		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.19.4		800mm wide cable ladder - straight	m	20		
E 2.19.5		800mm wide cable ladder - elbow	Ea.	0		
E 2.19.6		800mm wide cable ladder - dropper / riser	Ea.	2		
E 2.19.7		800mm wide cable ladder covers	m	10		
E 2.19.8		600mm wide cable ladder - straight	m	300		
E 2.19.9		600mm wide cable ladder - elbow	Ea.	12		
E 2.19.10		600mm wide cable ladder - dropper / riser	Ea.	6		
E 2.19.11		600mm wide cable ladder covers	m	15		
E 2.19.12		250mm wide cable ladder - straight	m	30		
E 2.19.13		250mm wide cable ladder - elbow	Ea.	3		
E 2.19.14		250mm wide cable ladder - dropper / riser	Ea.	1		
E 2.19.15		250mm wide cable ladder covers	m	10		
E 2.19.16		150mm wide cable ladder - straight	m	20		
E 2.19.17		150mm wide cable ladder - elbow	Ea.	2		
E 2.19.18		150mm wide cable ladder - dropper / riser	Ea.	3		
E 2.19.19		150mm wide cable ladder covers	m	10		
E 2.19.20		Scaffolding for cable installation in the Elutriation Pump Station and Balancing Tank	Days	10		
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.2	PSY2.1.16	**INSTALLATION, TESTING AND COMMISSIONING OF ORANGE PIGMENTED GLASS REINFORCED POLYESTER CABLE LADDER, COMPLETE WITH 316 STAINLESS STEEL SUPPORT BRACKETS AND FIXING MATERIALS, MOUNTED ON BUILDING WALLS OR OTHER STEEL STRUCTURES**				
E 2.2.1		150mm wide cable ladder - straight	m	10		
E 2.19.20.2		150mm wide cable ladder - elbow	Ea.	2		
E 2.19.20.3		150mm wide cable ladder covers	Ea.	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEMNo.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
E 2.21		**EXCAVATION AND BACKFILLING OF CABLE TRENCHES, PIPE CROSSINGS AND ROAD CROSSINGS**	m	10		
E 2.21.1		Trench and backfill 300mm wide x 500mm deep with one layer of protective tiles and warning tape as per Electrical Medium and Low Voltage Cable installation specification.	m	300		
E 2.21.2		Trench and backfill 150mm wide x 500mm deep with one layer of protective tiles and warning tape as per Electrical Medium and Low Voltage Cable installation specification..	m	320		
E 2.21.3		Excavate and backfill Road Crossings, including installation of sleeves. (Road Paving by others) as per Electrical Medium and Low Voltage Cable installation specification.	Ea.	2		
E 2.21.4		Cable Route Marker Posts as per specification.	Sum			
E 2.19.20		Core drill through concrete slab for electrical cable openings	Ea	10		
E 2.22		**SUNDRIES**				
E 2.22.1		Substation signage as per the requirements of Electrical Machinery Regulation No.4 of the Occupational Health & Safety Act of SA	Sum			
E 2.22.2		A0 Frames for mounting drawings in substation.	Ea.	1		
E 2.23		**COMMISSIONING**				
E 2.23.1		Commissioning Spares	Sum			
E 2.23.2		Commissioning Assistance	Hours	40		
E 2.23.3		Maintenance Spares	Sum			R 100,000.00
E 2		**INSTALLATION, TESTING AND COMMISSIONING OF ELECTRICAL WORKS**				
E 2.24		**DOCUMENTATION CERTIFICATES, MANUALS AND QA**				
E 2.24.1		Certificate of Compliance	Sum			
E 2.24.2		QA documentation for all equipment supplied	Sum			
E 2.24.3		Training	Sum			
TOTAL SECTION 4 CARRIED FORWARD TO SUMMARY						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C3		**INSTRUMENTATION AND CONTROL ENGINEERING REQUIREMENTS**				
C3.1		**PLC PANELS**				
C3.1.1	PSZ 3.2.1 & PSZ 3.7	**New Unit 5 Bioreactor 2 PLC (NW0580BIO02)**				
C 3.1.1.1		Design Panel Layout:	ea	1		
C 3.1.1.2		Hardware Supply:	Sum	1		
C 3.1.1.3		Panel Manufacture:	ea	1		
C 3.1.1.4		FAT:	ea	1		
C 3.1.1.5		Store and Deliver:	ea	1		
C 3.1.1.6		SAT:	ea	1		
C 3.1.1.7		Install:	ea	1		
C 3.1.1.8		Loop Checks:	Sum	1		
C 3.1.1.9		Commission:	Sum	1		
C3.1.2	PSZ 3.2.2	**New Unit 5 Final Effluent PLC (NW0505EPS01)**				
C 3.1.2.1		Design Panel Layout:	ea	1		
C 3.1.2.2		Hardware Supply:	Sum	1		
C 3.1.2.3		Panel Manufacture:	ea	1		
C 3.1.2.4		FAT:	ea	1		
C 3.1.2.5		Store and Deliver:	ea	1		
C 3.1.2.6		SAT:	ea	1		
C 3.1.2.7		Install:	ea	1		
C 3.1.2.8		Loop Checks:	Sum	1		
C 3.1.2.9		Commission:	Sum	1		
C3.1.3	PSZ 3.2.3 & PSZ 3.7	**New Unit 5 Main Intake Substation PLC (NW0507MIS01)**				
C 3.1.3.1		Design Panel Layout:	ea	1		
C 3.1.3.2		Hardware Supply:	Sum	1		
C 3.1.3.3		Panel Manufacture:	ea	1		
C 3.1.3.4		FAT:	ea	1		
C 3.1.3.5		Store and Deliver:	ea	1		
C 3.1.3.6		SAT:	ea	1		
C 3.1.3.7		Install:	ea	1		
C 3.1.3.8		Loop Checks:	Sum	1		
C 3.1.3.9		Commission:	Sum	1		
C3.1.4	PSZ 3.2.4 & PSZ 3.7	**New Unit 5 Elutriation PLC (NW0508ELT01)**				
C 3.1.4.1		Design Panel Layout:	ea	1		
C 3.1.4.2		Hardware Supply:	Sum	1		
C 3.1.4.3		Panel Manufacture:	ea	1		
C 3.1.4.4		FAT:	ea	1		
C 3.1.4.5		Store and Deliver:	ea	1		
C 3.1.4.6		SAT:	ea	1		
C 3.1.4.7		Install:	ea	1		
C 3.1.4.8		Loop Checks:	Sum	1		
C 3.1.4.9		Commission:	Sum	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C3.1.5	PSZ 3.2.5	**New Unit 5 PST and Balancing Tank PLC (NW0501PST01)**				
C 3.1.5.1		Design Panel Layout:	ea	1		
C 3.1.5.2		Hardware Supply:	Sum	1		
C 3.1.5.3		Panel Manufacture:	ea	1		
C 3.1.5.4		FAT:	ea	1		
C 3.1.5.5		Store and Deliver:	ea	1		
C 3.1.5.6		SAT:	ea	1		
C 3.1.5.7		Install:	ea	1		
C 3.1.5.8		Loop Checks:	Sum	1		
C 3.1.5.9		Commission:	Sum	1		
C3.1.6	PSZ 3.2.6	**New Unit 5 WST PLC (NW0504WST01)**				
C 3.1.6.1		Design Panel Layout:	ea	1		
C 3.1.5.2		Hardware Supply:	Sum	1		
C 3.1.5.3		Panel Manufacture:	ea	1		
C 3.1.5.4		FAT:	ea	1		
C 3.1.5.5		Store and Deliver:	ea	1		
C 3.1.5.6		SAT:	ea	1		
C 3.1.5.7		Install:	ea	1		
C 3.1.5.8		Loop Checks:	Sum	1		
C 3.1.5.9		Commission:	Sum	1		
C3.1.7	PSZ 3.2.7	**New Unit 5 WAS Pump Station PLC (NW0503WPS01)**				
C 3.1.7.1		Design Panel Layout:	ea	1		
C 3.1.7.2		Hardware Supply:	Sum	1		
C 3.1.7.3		Panel Manufacture:	ea	1		
C 3.1.7.4		FAT:	ea	1		
C 3.1.7.5		Store and Deliver:	ea	1		
C 3.1.7.6		SAT:	ea	1		
C 3.1.7.7		Install:	ea	1		
C 3.1.7.8		Loop Checks:	Sum	1		
C 3.1.7.9		Commission:	Sum	1		
C3.1.8	PSZ 3.2.8	**New Unit 5 Hyphochlorite PLC (NW0506CHL01)**				
C 3.1.8.1		Design Panel Layout:	ea	1		
C 3.1.8.2		Hardware Supply:	Sum	1		
C 3.1.8.3		Panel Manufacture:	ea	1		
C 3.1.8.4		FAT:	ea	1		
C 3.1.8.5		Store and Deliver:	ea	1		
C 3.1.8.6		SAT:	ea	1		
C 3.1.8.7		Install:	ea	1		
C 3.1.8.8		Loop Checks:	Sum	1		
C 3.1.8.9		Commission:	Sum	1		
C 3.1.8.10		Loop Checks:	Sum	1		
C 3.1.8.11		Commission:	ea	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C3.1.9	PSZ 3.2.9	**Unit 5 Bioreactor 1 PLC (NW0502BIO01)**				
C 3.1.9.1		Design Panel Layout:	ea	1		
C 3.1.9.2		Hardware Supply:	Sum	1		
C 3.1.9.3		Panel Manufacture:	ea	1		
C 3.1.9.4		FAT:	ea	1		
C 3.1.9.5		Store and Deliver:	ea	1		
C 3.1.9.6		SAT:	ea	1		
C 3.1.9.7		Install:	ea	1		
C 3.1.9.8		Loop Checks:	Sum	1		
C 3.1.9.9		Commission:	Sum	1		
C 3.1.9.10		Loop Checks:	Sum	1		
C 3.1.9.11		Commission:	ea	1		
C3.1.10	PSZ 3.2.10	**Commissioning Spares**				
C 3.1.10.1		Hardware Supply:	Sum	1		
C 3.1.10.2		Test:	Sum	1		
C 3.1.10.3		Store and Deliver:	Sum	1		
C3.1.11	PSZ 3.2.11	**Maintenance Spares**				
C 3.1.11.1		Hardware Supply:	Sum	1		
C 3.1.11.2		Store and Deliver:	Sum	1		
C3.2	PSZ 3.4	**INSTRUMENTS**				
C 3.2.1	PSZ 3.4 Item 1	**Ultrasonic Level Meters**				
C 3.2.1.1		Design Panel Layout:	ea	10		
C 3.2.1.2		Hardware Supply Per Panel:	ea	10		
C 3.2.1.3		IJB Panel Manufacture:	ea	10		
C 3.2.1.4		FAT:	ea	10		
C 3.2.1.5		Store and Deliver:	ea	10		
C 3.2.1.6		SAT:	ea	10		
C 3.2.1.7		Install:	ea	10		
C 3.2.1.8		Loop Checks:	ea	10		
C 3.2.1.9		Commission:	ea	10		
C 3.2.2	PSZ 3.4 Item 2	**Clamp On Flow Meters**				
C 3.2.2.1		Design Panel Layout:	ea	11		
C 3.2.2.2		Hardware Supply Per Panel:	ea	11		
C 3.2.2.3		IJB Panel Manufacture:	ea	11		
C 3.2.2.4		FAT:	ea	11		
C 3.2.2.5		Store and Deliver:	ea	11		
C 3.2.2.6		SAT:	ea	11		
C 3.2.2.7		Install:	ea	11		
C 3.2.2.8		Loop Checks:	ea	11		
C 3.2.2.9		Commission:	ea	11		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.2.3	PSZ 3.4 Item 3	**Magnetic Flow Meters**				
C 3.2.3.1		Design Panel Layout:	ea	3		
C 3.2.3.2		Hardware Supply Per Panel:	ea	3		
C 3.2.3.3		IJB Panel Manufacture:	ea	3		
C 3.2.3.4		FAT:	ea	3		
C 3.2.3.5		Store and Deliver:	ea	3		
C 3.2.3.6		SAT:	ea	3		
C 3.2.3.7		Install:	ea	3		
C 3.2.3.8		Loop Checks:	ea	3		
C 3.2.3.9		Commission:	ea	3		
C 3.2.4	PSZ 3.4 Item 4	**Area Velocity Flow Meters**				
C 3.2.4.1		Design Panel Layout:	ea	1		
C 3.2.4.2		Hardware Supply:	Sum	1		
C 3.2.4.3		IJB Panel Manufacture:	ea	1		
C 3.2.4.4		FAT:	ea	1		
C 3.2.4.5		Store and Deliver:	ea	1		
C 3.2.4.6		SAT:	ea	1		
C 3.2.4.7		Install:	ea	1		
C 3.2.4.8		Loop Checks:	ea	1		
C 3.2.4.9		Commission:	ea	1		
C 3.2.5	PSZ 3.4 Item 5	**Gas Flow Meters NOT REQUIRED**				
C 3.2.6	PSZ 3.4 Item 6	**Mixed Liquor Suspended Solids Analysers**				
C 3.2.6.1		Design Panel Layout:	ea	1		
C 3.2.6.2		Hardware Supply:	Sum	1		
C 3.2.6.3		IJB Panel Manufacture:	ea	1		
C 3.2.6.4		FAT:	ea	1		
C 3.2.6.5		Store and Deliver:	ea	1		
C 3.2.6.6		SAT:	ea	1		
C 3.2.6.7		Install:	ea	1		
C 3.2.6.8		Loop Checks:	ea	1		
C 3.2.6.9		Commission:	ea	1		
C 3.2.7	PSZ 3.4 Item 7	**Dissolved Oxygen Analysers**				
C 3.2.7.1		Design Panel Layout:	ea	3		
C 3.2.7.2		Hardware Supply Per Analyser:	ea	3		
C 3.2.7.3		IJB Panel Manufacture:	ea	3		
C 3.2.7.4		FAT:	ea	3		
C 3.2.7.5		Store and Deliver:	ea	3		
C 3.2.7.6		SAT:	ea	3		
C 3.2.7.7		Install:	ea	3		
C 3.2.7.8		Loop Checks:	ea	3		
C 3.2.7.9		Commission:	ea	3		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.2.8	PSZ 3.4 Item 8.1	**Phosphate Analyser Single Stream**				
C 3.2.8.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.8.2		FAT:	ea	1		
C 3.2.8.3		Store and Deliver:	ea	1		
C 3.2.8.4		SAT:	ea	1		
C 3.2.8.5		Install:	ea	1		
C 3.2.8.6		Loop Checks:	ea	1		
C 3.2.8.7		Commission:	ea	1		
C 3.2.9	PSZ 3.4 Item 8.2	**Phosphate Analyser Dual Stream**				
C 3.2.9.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.9.2		FAT:	ea	1		
C 3.2.9.3		Store and Deliver:	ea	1		
C 3.2.9.4		SAT:	ea	1		
C 3.2.9.5		Install:	ea	1		
C 3.2.9.6		Loop Checks:	ea	1		
C 3.2.9.7		Commission:	ea	1		
C 3.2.10	PSZ 3.4 Item 9.1	**Ammonia Analyser Single Stream**				
C 3.2.10.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.10.2		FAT:	ea	1		
C 3.2.10.3		Store and Deliver:	ea	1		
C 3.2.10.4		SAT:	ea	1		
C 3.2.10.5		Install:	ea	1		
C 3.2.10.6		Loop Checks:	ea	1		
C 3.2.10.7		Commission:	ea	1		
C 3.2.11	PSZ 3.4 Item 9.2	**Ammonia Analyser Dual Stream**				
C 3.2.11.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.11.2		FAT:	ea	1		
C 3.2.11.3		Store and Deliver:	ea	1		
C 3.2.11.4		SAT:	ea	1		
C 3.2.11.5		Install:	ea	1		
C 3.2.11.6		Loop Checks:	ea	1		
C 3.2.11.7		Commission:	ea	1		
C 3.2.12	PSZ 3.4 Item 10	**COD Analyser**				
C 3.2.12.1		Hardware Supply Per Analyser:	ea	3		
C 3.2.12.2		FAT:	ea	3		
C 3.2.12.3		Store and Deliver:	ea	3		
C 3.2.12.4		SAT:	ea	3		
C 3.2.12.5		Install:	ea	3		
C 3.2.12.6		Loop Checks:	ea	3		
C 3.2.12.7		Commission:	ea	3		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.2.13	PSZ 3.4 Item 11	**pH Analyser**				
C 3.2.13.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.13.2		FAT:	ea	1		
C 3.2.13.3		Store and Deliver:	ea	1		
C 3.2.13.4		SAT:	ea	1		
C 3.2.13.5		Install:	ea	1		
C 3.2.13.6		Loop Checks:	ea	1		
C 3.2.13.7		Commission:	ea	1		
C 3.2.14	PSZ 3.4 Item 12	**Nitrate Analyser**				
C 3.2.14.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.14.2		FAT:	ea	1		
C 3.2.14.3		Store and Deliver:	ea	1		
C 3.2.14.4		SAT:	ea	1		
C 3.2.14.5		Install:	ea	1		
C 3.2.14.6		Loop Checks:	ea	1		
C 3.2.14.7		Commission:	ea	1		
C 3.2.15	PSZ 3.4 Item 13	**Conductivilty Analyser**				
C 3.2.15.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.15.2		FAT:	ea	1		
C 3.2.15.3		Store and Deliver:	ea	1		
C 3.2.15.4		SAT:	ea	1		
C 3.2.15.5		Install:	ea	1		
C 3.2.15.6		Loop Checks:	ea	1		
C 3.2.15.7		Commission:	ea	1		
C 3.2.16	PSZ 3.4 Item 14	**Chlorine Analyser**				
C 3.2.16.1		Hardware Supply Per Analyser:	ea	1		
C 3.2.16.2		FAT:	ea	1		
C 3.2.16.3		Store and Deliver:	ea	1		
C 3.2.16.4		SAT:	ea	1		
C 3.2.16.5		Install:	ea	1		
C 3.2.16.6		Loop Checks:	ea	1		
C 3.2.16.7		Commission:	ea	1		
C 3.2.17	PSZ 3.4 Item 15	**Final Effluent Analyser Room IJB**				
C 3.2.17.1		Design Panel Layout:	ea	1		
C 3.2.17.2		Hardware Supply Per IJB:	ea	1		
C 3.2.17.3		IJB Panel Manufacture:	ea	1		
C 3.2.17.4		Store and Deliver:	ea	1		
C 3.2.17.5		Install:	ea	1		
C 3.2.18	PSZ 3.4 Item 15	**New Bio 1/Bio 2 Analyser Room IJB**				
C 3.2.18.1		Design Panel Layout:	ea	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.2.18.2		Hardware Supply Per IJB:	ea	1		
C 3.2.18.3		IJB Panel Manufacture:	ea	1		
C 3.2.18.4		Store and Deliver:	ea	1		
C 3.2.18.5		Install:	ea	1		
C3.3	PSZ 3.5	**VALVE ICPs**				
C 3.3.1	PSZ 3.5 Item 1	**Motorised Open-Close Valve ICPs**				
C 3.3.1.1		Design Panel Layout:	ea	7		
C 3.3.1.2		Hardware Supply Per ICP:	ea	7		
C 3.3.1.3		ICP Panel Manufacture:	ea	7		
C 3.3.1.4		FAT:	ea	7		
C 3.3.1.5		Store and Deliver:	ea	7		
C 3.3.1.6		SAT:	ea	7		
C 3.3.1.7		Install:	ea	7		
C 3.3.1.8		Loop Checks:	ea	7		
C 3.3.1.9		Commission:	ea	7		
C 3.3.2	PSZ 3.5 Item 2	**Motorised Modulating Valve ICPs**				
C 3.3.2.1		Design Panel Layout:	ea	3		
C 3.3.2.2		Hardware Supply Per ICP:	ea	3		
C 3.3.2.3		ICP Panel Manufacture:	ea	3		
C 3.3.2.4		FAT:	ea	3		
C 3.3.2.5		Store and Deliver:	ea	3		
C 3.3.2.6		SAT:	ea	3		
C 3.3.2.7		Install:	ea	3		
C 3.3.2.8		Loop Checks:	ea	3		
C 3.3.2.9		Commission:	ea	3		
C 3.4	PSZ 3.6.1	**INSTRUMENT AND FIBRE OPTIC CABLES**				
C 3.4.1	PSZ 3.6.1	**3core 2.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.1.1		Supply and Deliver:	m	4844		
C 3.4.1.2		Install:	m	4844		
C 3.4.1.3		Terminate (per cable):	ea	55		
C 3.4.2	PSZ 3.6.1	**37core 1.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.2.1		Supply and Deliver:	m	590		
C 3.4.2.2		Install:	m	590		
C 3.4.2.3		Terminate (per cable):	ea	20		
C 3.4.3	PSZ 3.6.1	**12core 1.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.3.1		Supply and Deliver:	m	1752		
C 3.4.3.2		Install:	m	1752		
C 3.4.3.3		Terminate (per cable):	ea	18		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.4.3	PSZ 3.6.1	**7core 1.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.3.1		Supply and Deliver:	m	1660		
C 3.4.3.2		Install:	m	1660		
C 3.4.3.3		Terminate (per cable):	ea	11		
C 3.4.4	PSZ 3.6.1	**4core 1.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.4.1		Supply and Deliver:	m	3054		
C 3.4.4.2		Install:	m	3054		
C 3.4.4.3		Terminate (per cable):	ea	34		
C 3.4.1.5	PSZ 3.6.1	**3core 1.5mm² PVC PVC SWA PVC (Orange)**				
C 3.4.1.5.1		Supply and Deliver:	m	640		
C 3.4.1.5.2		Install:	m	640		
C 3.4.1.5.3		Terminate (per cable):	ea	8		
C 3.4.1.6	PSZ 3.6.1	**2pair 0.5mm² PVC PVC SWA PVC IOS (Orange)**				
C 3.4.1.6.1		Supply and Deliver:	m	3277		
C 3.4.1.6.2		Install:	m	3277		
C 3.4.1.6.3		Terminate (per cable):	ea	45		
C 3.4.1.7	PSZ 3.6.1	**4pair 0.5mm² PVC PVC SWA PVC IOS (Orange)**				
C 3.4.1.7.1		Supply and Deliver:	m	597		
C 3.4.1.7.2		Install:	m	597		
C 3.4.1.7.3		Terminate (per cable):	ea	6		
C 3.4.1.8	PSZ 3.6.1	**12pair 0.5mm² PVC PVC SWA PVC IOS (Orange)**				
C 3.4.1.8.1		Supply and Deliver:	m	210		
C 3.4.1.8.2		Install:	m	210		
C 3.4.1.8.3		Terminate (per cable):	ea	5		
C 3.4.1.9	PSZ 3.6.1 & PSZ 3.6.3	**CAT6 cable**				
C 3.4.1.9.1		Supply and Deliver:	m	40		
C 3.4.1.9.2		Install:	m	40		
C 3.4.1.9.3		Terminate (per cable):	ea	4		
C 3.4.1.10	PSZ 3.8.1	**2 tube microduct assembly (Orange)**				
C 3.4.1.10.1		Supply and Deliver:	m	55		
C 3.4.1.10.2		Install:	m	55		
C 3.4.1.10.3		Connection:	ea	2		
C 3.4.1.11	PSZ 3.8.1	**12 tube microduct assembly (Orange)**				
C 3.4.1.11.1		Supply and Deliver:	m	45		
C 3.4.1.11.2		Install:	m	45		
C 3.4.1.11.3		Connection (per tube):	ea	1		
C 3.4.1.12	PSZ 3.8.1	**6 pair single mode blown fibre**				
C 3.4.1.12.1		Supply and Deliver:	m	726		
C 3.4.1.12.2		Install:	m	726		
C 3.4.1.12.4		Splice: (per bundle)	ea	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.5	PSZ 3.6	**INSTRUMENT CABLE RACK - LADDER TYPE**				
C 3.5.1	PSZ 3.6.1	**500 mm Ladder**				
C 3.5.1.1		Supply and Deliver:	m	460		
C 3.5.1.2		Install:	m	460		
C 3.5.2	PSZ 3.6.1	**300 mm Ladder**				
C 3.5.2.1		Supply:	m	592		
C 3.5.2.2		Install:	m	592		
	PSZ 3.6.1	**200 mm Ladder**				
		Supply:	m	25		
		Install:	m	25		
C 3.5.4	PSZ 3.6.2	**Scaffolding:**				
C 3.5.4.1		Balancing Tank	Days	4		
C 3.5.4.2		New Elutriation Pump Station	Days	4		
C 3.5.4.3		Existing Elutriation Pump Station	Days	4		
C 3.6	PSZ 3.6.1 & PSZ 3.8	**TRENCHES AND MANHOLES**				
C 3.6.1		Soil Trenches	m	284		
C 3.6.2		Under Road/Paving Trenches	m	365		
C 3.6.3		Road/Paving re-establishment	m	365		
C 3.6.4		Route Markers	ea	54		
C 3.6.5		Manholes	ea	17		
C 3.7	PSZ 3.7	**DATA COMMUNICATIONS AND NETWORKING**				
C 3.7.1		Supply and Deliver new LC connector patch panels	ea	2		
C 3.7.2		Install new LC connector patch panels	ea	2		
C 3.7.3		Test all Fibre Optic Cables and Patch Panels	Sum	1		
C 3.8	PSZ 3.9	**TRAINING**	Sum	1		
C 3.9	PSZ 3.10	**Analyser Rooms Fit-out**	Sum	1		
TOTAL CARRIED FORWARD						

Employer:		Contractor:	
Witness:		Witness:	

ITEM No.	PAYM. REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD						
C 3.9.1	PSZ 3.10.1	**Final Effluent Analyser Room** Complete fit-out of analyser room with piping/tubing, valves, backboard, troughs, filtration, labelling, head pot, brackets and/or stands, power skirting with switched socket outlets and wiring to the elctrical DB (distribution board) . This cost must exclude the supply and installation of an IJB, probes and analysers. Any instrument DB required will be supplied and installed by others.	Sum	1		
C 3.9.2	PSZ 3.10.2	**Bioreactors 1 & 2 Effluent Analyser Room** Complete fit-out of analyser room with piping/tubing, valves, backboard, troughs, filtration, labelling, head pot, brackets and/or stands, power skirting with switched socket outlets and wiring to the elctrical DB (distribution board) . This cost must exclude the supply and installation of an IJB, probes and analysers. Any instrument DB required will be supplied and installed by others.	Sum	1		
TOTAL SECTION 3 CARRIED FORWARD TO SUMMARY						

Employer:		Contractor:	
Witness:		Witness:	

SCHEDULE	DESCRIPTION	AMOUNT
BROUGHT FORWARD		
1	Preliminary and General	
2	Mechanical Engineering Works	
3	Electrical Engineering Works	
4	Control and Instrumentation Engineering Works	
	SUB TOTAL 1	
	10 % Escalation	
	SUB TOTAL 2	
	12.5 % Contingency	
	SUB TOTAL 3	
	VAT @ 15%	
TOTAL CARRIED TO FORM OF OFFER		

Employer:		Contractor:	
Witness:		Witness:	