

ESTIMATE SUMMARY			
ITEM	DESCRIPTION	COST (ZAR)	%
1	PRELIMINARY AND GENERAL		
1.1	FIXED P&G'S	R	
1.2	TIME RELATED P&G'S	R	
	TOTAL PRELIMINARY AND GENERAL	A R	
2	PROCUREMENT & INSTALLATION		
2.1	FIRE SYSTEM MECHANICAL EQUIPMENT	R 800,000.00	
2.2	CIVIL	R	
2.3	ELECTRICAL, CONTROL AND INSTRUMENTATION		
	SUBTOTAL PROCUREMENT & INSTALLATION	B R 800,000.00	
3	TESTING & COMMISSIONING		
3.1	TESTING & COMMISSIONING COSTS		
	TOTAL TESTING & COMMISSIONING	C R	
	TOTAL DIRECT COST (ENGINEERING + MATERIAL + CONSTRUCTION + P&G'S + COMMISSIONING) EXCLUDING VAT	D = A + B + C R 800,000.00	
	ADD 15% VAT	E R 120,000.00	
	TOTAL CARRIED TO FORM OF OFFER	F = D + E R 920,000.00	

TRANSNET PIPELINES						
TENDER NO.						
AUTOMATIC FOAM FIRE PROTECTION SYSTEM FOR TRANSNET'S CAPACITY PLAN UPGRADE AT TRANSNET'S SECUNDA DEPOT, MPUMALANGA PROVINCE, SOUTH AFRICA						
SCHEDULE OF QUANTITIES						
NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK						
SCHEDULE: PRELIMINARIES AND GENERAL						
1. P&G		PROJECT: SECUNDA DEPOT TELE-MECHANICAL PHASE 2 UPGRADE	UNIT	QTY	RATE	AMOUNT
ITEM	PAYMENT	DESCRIPTION				
		PREAMBLE THIS BILL OF QUANTITIES (BOQ) FORMS PART OF THE CONTRACT FOR THE TRANSNET SECUNDA TELE-MECHANICAL PHASE 2 UPGRADE – FIRE PROTECTION SYSTEM. THE QUANTITIES AND DESCRIPTIONS IN THIS BOQ ARE BASED ON THE SPECIFICATIONS, SCOPE OF WORKS, AND REQUIREMENTS OUTLINED IN THE TECHNICAL DOCUMENTS REFERENCED HEREIN. IT IS INTENDED TO PROVIDE A COMPREHENSIVE SCHEDULE OF MATERIALS, EQUIPMENT, AND WORKS REQUIRED FOR THE EXECUTION AND COMPLETION OF THE FIRE PROTECTION SYSTEM UPGRADES. THE CONTRACTOR IS RESPONSIBLE FOR THE ALLOWANCE AND INCLUSION OF ANY ITEMS REQUIRED FOR THE SUCCESSFUL EXECUTION OF THE WORKS WHICH ARE INFERRED WITHOUT BEING SPECIFICALLY STATED. NOTE: TENDERERS ARE ADVISED TO STUDY THE "MODEL PREAMBLES FOR TRADES" (2008 EDITION) AS RECOMMENDED AND PUBLISHED BY THE ASSOCIATION OF SOUTH AFRICAN QUANTITY SURVEYORS BEFORE PRICING THIS BILL. NOTE: TENDERERS ARE REFERRED TO C2.1 PRICING INSTRUCTIONS FOR THE CONTRACT. THE BOQ SHOULD BE COMPLETED IN CORRESPONDENCE TO THESE INSTRUCTIONS. ANY REFERENCE TO PLANT IN THIS SECTION I.E PRELIMINARY AND GENERAL OF THIS BOQ SHALL BE EQUIPMENT AS DEFINED UNDER NEC SUITE OF CONTRACTS SCOPE OF WORKS THE WORKS INCLUDED IN THIS BOQ COVER THE PROCUREMENT, INSTALLATION, TESTING, AND COMMISSIONING OF A FIRE PROTECTION SYSTEM, INCLUSIVE OF THE FOLLOWING MAJOR COMPONENTS: - FIREWATER AND FOAM SYSTEMS, COMPRISING DIESEL-DRIVEN FIRE WATER PUMPS, FOAM CONCENTRATE STORAGE TANKS, FOAM PROPORTIONERS, HYDRANTS, AND HOSES AS SPECIFIED IN THE TECHNICAL SPECIFICATION DOCUMENT (REF: 21035-TPL-FP-RPT-002) - REFURBISHMENT AND UPGRADING OF THE EXISTING FIRE WATER STORAGE TANKS, INCLUDING THE STEEL PANEL AND CONCRETE TANKS - INSTALLATION OF FIRE WATER RETICULATION SYSTEMS, INCLUDING ABOVEGROUND AND UNDERGROUND PIPEWORK, BOOSTER CONNECTIONS, OSCILLATING MONITORS, AND DELUGE SYSTEMS - ALL NECESSARY ELECTRICAL AND CONTROL SYSTEMS TO OPERATE THE FIRE PROTECTION SYSTEM, INCLUDING DIESEL TANKS, ENGINE CONTROL PANELS, AND ASSOCIATED ELECTRICAL CABLING GENERAL PROVISIONS - THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE OPERATIONAL INTEGRITY OF THE EXISTING FIRE PROTECTION SYSTEMS UNTIL THE NEW SYSTEM HAS BEEN FULLY COMMISSIONED - ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL COMPLY WITH THE LATEST RELEVANT NATIONAL AND INTERNATIONAL STANDARDS, INCLUDING SANS, NFPA, AND TRANSNET PIPELINES SPECIFICATIONS - THE CONTRACTOR SHALL PROVIDE ALL DOCUMENTATION, INCLUDING QUALITY CONTROL PLANS, MATERIAL CERTIFICATES, AND "AS-BUILT" DRAWINGS UPON COMPLETION - THE SITE CONDITIONS, INCLUDING CLIMATIC AND OPERATIONAL CONSTRAINTS, MUST BE CONSIDERED WHEN PRICING THE WORKS. THE WORKS ARE TO BE EXECUTED AT THE ORANGEBOOM LANGE NEAR SECUNDA, MPUMALANGA				
1	SANS 1200A	SECTION A: PRELIMINARY AND GENERAL				
1.1	8.3	FIXED-CHARGE ITEMS				
1.1.1	8.3.1	CONTRACTUAL REQUIREMENTS	Sum	1.00		
	8.3.2	ESTABLISHMENT OF FACILITIES ON THE SITE :				
	8.3.2.2	FACILITIES FOR THE CONTRACTOR:				
1.1.2		OFFICES AND STORAGE SHEDS	Sum	1.00		
1.1.3		WORKSHOPS	Sum	1.00		
1.1.4		LABORATORIES & TESTING	Sum	1.00		
1.1.5		LIVING ACCOMMODATION (NOT ON-SITE)	Sum	1.00		
1.1.6		ABLUTION AND LATRINE FACILITIES	Sum	1.00		
1.1.7		TOOLS AND EQUIPMENT	Sum	1.00		
1.1.8		WATER SUPPLIES, ELECTRIC POWER AND COMMUNICATIONS	Sum	1.00		
1.1.9		DEALING WITH WATER	Sum	1.00		
1.1.10		ACCESS	Sum	1.00		
1.1.11		PLANT (EQUIPMENT AS DEFINED UNDER THE NEC I.E. DESIGNATED MACHINERY FOR TEMPORARY USE DURING CONSTRUCTION TO DELIVER THE WORK)	Sum	1.00		
1.1.12		LOGISTICS AND TRANSPORTATION TO AND FROM SITE	Sum	1.00		

	8.3.3	OTHER FIXED-CHARGE OBLIGATIONS				
1.1.13		SAFETY AND SECURITY INDUCTION OF PERSONNEL	Sum	1.00		
1.1.14		MEDICAL CERTIFICATION OF FITNESS OF PERSONNEL, INCLUDING EXIT MEDICALS	Sum	1.00		
1.1.15		PROVISION FOR PERSONAL PROTECTIVE EQUIPMENT	Sum	1.00		
1.1.16		FIRST AID AND MEDICAL SERVICES	Sum	1.00		
1.1.17		EATING AREAS FOR LABOURERS	Sum	1.00		
1.1.18		ALLOWANCE FOR QA/QC COMPLIANCE	Sum	1.00		
1.1.19		ALLOWANCE FOR HSE COMPLIANCE	Sum	1.00		
1.1.20		ALLOWANCE FOR ENVIRONMENTAL COMPLIANCE	Sum	1.00		
1.1.21		FACILITIES FOR THE CLEANING OF EQUIPMENT	Sum	1.00		
1.1.22		FIRE DEPARTMENT AND EMERGENCY SERVICES STANDBY DURING SHUTDOWN OF SAFETY SYSTEMS	Sum	1.00		
1.1.23		OTHER FIXED CHARGE OBLIGATIONS (CONTRACTOR TO SPECIFY IN 4.1 AOI)	Sum	1.00		
	8.3.4	REMOVAL OF SITE ESTABLISHMENT				
1.1.24		REMOVE CONTRACTOR'S SITE ESTABLISHMENT ON COMPLETION	Sum	1.00		
2	8.4	TIME-RELATED ITEMS				
2.1	8.4.1	CONTRACTUAL REQUIREMENTS	Mnth	9.00		
	8.4.2	OPERATE AND MAINTAIN FACILITIES ON THE SITE:				
	8.4.2.2	FACILITIES FOR CONTRACTOR FOR DURATION OF CONSTRUCTION, EXCEPT WHERE OTHERWISE STATED:				
2.2		OFFICES AND STORAGE SHEDS	Mnth	9.00		
2.3		WORKSHOPS	Mnth	9.00		
2.4		LABORATORIES & TESTING	Mnth	9.00		
2.5		LIVING ACCOMMODATION (NOT ON-SITE)	Mnth	9.00		
2.6		ABLUTION AND LATRINE FACILITIES	Mnth	9.00		
2.7		TOOLS AND EQUIPMENT	Mnth	9.00		
2.8		WATER SUPPLIES, ELECTRIC POWER AND COMMUNICATIONS	Mnth	9.00		
2.9		DEALING WITH WATER	Mnth	9.00		
2.1		ACCESS	Mnth	9.00		
2.11		PLANT (EQUIPMENT AS DEFINED UNDER THE NEC I.E. DESIGNATED MACHINERY FOR TEMPORARY USE DURING CONSTRUCTION TO DELIVER THE WORK)	Mnth	9.00		
2.12		LOGISTICS AND TRANSPORTATION TO AND FROM SITE	Mnth	9.00		
	8.4.3	SUPERVISION FOR DURATION OF CONSTRUCTION				
2.13		SUPERVISION FOR DURATION OF CONSTRUCTION	Mnth	9.00		
	8.4.4	COMPANY AND HEAD OFFICE OVERHEAD COSTS FOR THE DURATION OF THE				
2.14		COMPANY HEAD OFFICE OVERHEAD COSTS FOR THE DURATION OF THE CONTRACT	Mnth	9.00		
	8.4.5	GENERAL RESPONSIBILITIES AND OTHER TIME RELATED OBLIGATIONS				
2.15		SAFETY AND SECURITY INDUCTION OF PERSONNEL	Mnth	9.00		
2.16		MEDICAL CERTIFICATION OF FITNESS OF PERSONNEL, INCLUDING EXIT MEDICALS	Mnth	9.00		
2.17		PROVISION FOR PERSONAL PROTECTIVE EQUIPMENT	Mnth	9.00		
2.18		FIRST AID AND MEDICAL SERVICES	Mnth	9.00		
2.19		EATING AREAS FOR LABOURERS	Mnth	9.00		
2.20		ALLOWANCE FOR ENVIRONMENTAL COMPLIANCE	Mnth	9.00		
2.21		ALLOWANCE FOR QA/QC COMPLIANCE	Mnth	9.00		
2.22		ALLOWANCE FOR HSE COMPLIANCE	Mnth	9.00		
2.22		ALLOWANCE FOR ENVIRONMENTAL COMPLIANCE	Mnth	9.00		
2.23		FACILITIES FOR THE CLEANING OF EQUIPMENT	Mnth	9.00		
2.24		FIRE DEPARTMENT AND EMERGENCY SERVICES STANDBY DURING SHUTDOWN OF SAFETY SYSTEMS	Mnth	9.00		
2.25		OTHER TIME RELATED OBLIGATIONS (CONTRACTOR TO SPECIFY IN 4.1 AOI)	Mnth	9.00		
TOTAL CARRIED TO SUMMARY						R -

TRANSNET PIPELINES								
TENDER NO.								
AUTOMATIC FOAM FIRE PROTECTION SYSTEM FOR TRANSNET'S CAPACITY PLAN UPGRADE AT TRANSNET'S SECUNDA DEPOT, MPUMALANGA PROVINCE, SOUTH AFRICA								
SCHEDULE OF QUANTITIES								
NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK								
SCHEDULE: SUPPLY AND INSTALLATION OF FIRE SYSTEM MECHANICAL EQUIPMENT								
NOT SHOWN IN THE P&IDS:		ALL STEEL FLANGES CONFORM TO SANS 1123 TABLE 1600/3 (RF) ALL STEEL PIPING LARGER THAN DN 150 CONFORM TO SANS 719 GRADE C ALL STEEL PIPING SMALLER THAN DN 150 CONFORMS TO SANS 62 GRADE C UNLESS OTHERWISE STATED IN DESCRIPTIONS			ALL PIPES ARE PRESSURE NOMINAL TO 16 BAR RELEVANT THICKNESSES APPLY ALL DIAMETERS IN MM			
2.1 FIRE		PROJECT: SECUNDA DEPOT TELE-MECHANICAL PHASE 2 UPGRADE			UNIT	QTY	RATE	AMOUNT
ITEM	PAYMENT	DESCRIPTION						
1		SUPPLY AND INSTALLATION OF MECHANICAL EQUIPMENT						
1.1		FIRE SYSTEM PUMPING AND ALLIED EQUIPMENT						
1.1.1		1% FOAM PROPORTIONER ANGUS FIRE, OR SIMILAR AND APPROVED EQUIVALENT			No	1		
1.1.2		DIESEL DRIVEN FIRE WATER PUMP, SELF-PRIMING, 120L/S @ 1100KPA, DESIGN BASED ON CORNELL "DOUBLE VOLUTE" SELF PRIMING CENTRIFUGAL TYPE PUMP: MODEL 6822MX-RPF18DB DIRECT COUPLED TO SIX CYLINDER RADIATOR COOLED, TURBO CHARGED, DIESEL ENGINE (PREFERRED ENGINE SUPPLIER - VOLVO). SELECTED EQUIPMENT TO BE SIMILAR OR APPROVED EQUIVALENT			No	2		
1.1.3		DIESEL STORAGE TANK 350 LITRES COMPLETE WITH ALL APPURTENANCES			No	2		
1.1.4		BELT-DRIVEN PROGRESSIVE CAVITY SCREW PUMP FOR DOSING OF FOAM CONCENTRATE			No	2		
1.1.5		FOAM OFF-LOADING PUMP - VERDER SCREW CHANNEL HSB V50-50-A IEC80 INOT SHOWN IN THE P&IDSX-SF WITH DUTY 10 M³/H AT 10M HEAD, OR SIMILAR AND APPROVED EQUIVALENT			No	1		
1.1.6		JOCKEY PUMP - 450L/S @ 800KPA, DESIGN BASED ON KSB MOVITEC, OR SIMILAR AND APPROVED EQUIVALENT			No	1		
1.1.7		DIESEL ENGINE EXHAUST OUTLET SYSTEM			No	2		
1.1.8		WATER POWERED AUTOMATIC OSCILLATING MONITOR, ANGUS OM80			No	5		
1.1.9		FIRE BRIGADE SUPPORT AND STANDBY DURING THE DOWNTIME OF COMMISSIONING AND SWITCHOVER			No	1		
1.2		FIRE SYSTEM VALVES AND FLOW RESTRICTING DEVICES						
1.2.1		BUTTERFLY VALVE DN80 PN 16 CI BODY 316SS DISC METAL LINER WAFER TYPE			No	1		
1.2.2		BUTTERFLY VALVE DN100 PN 16 CI BODY 316SS DISC METAL LINER WAFER TYPE			No	12		
1.2.3		BUTTERFLY VALVE DN150 PN 16 CI BODY 316SS DISC METAL LINER WAFER TYPE			No	9		
1.2.4		BUTTERFLY VALVE DN200 PN 16 CI BODY 316SS DISC METAL LINER WAFER TYPE			No	1		
1.2.5		BUTTERFLY VALVE DN300 PN 16 CI BODY 316SS DISC METAL LINER WAFER TYPE			No	8		
1.2.6		CHECK VALVE DN 300 PN16 CI BODY 316SS PLATES WAFER DUAL PLATE			No	3		
1.2.7		CHECK VALVE DN 80 PN16 SS BODY 316SS PLATES WAFER DUAL PLATE			No	4		
1.2.8		BALL VALVE DN50 PN16 RF SS BODY 304SS BALL PTFE SEATS RF SANS1123			No	1		
1.2.9		BALL VALVE DN80 PN16 RF SS BODY 304SS BALL PTFE SEATS RF SANS1123			No	9		
1.2.10		BALL VALVE STAINLESS STEEL BODY DN25, 150 LB, RF SANS 1123			No	1		
1.2.11		BALL VALVE DN25, CI BODY, 150 LB, THDF			No	6		
1.2.12		BALL VALVE DN25, CI BODY, 150 LB, RF SANS1123			No	6		
1.2.13		BALL VALVE STAINLESS STEEL BODY DN15, SHORT PATTERN, 150 LB, THDF			No	4		
1.2.14		BALL VALVE DN15, CI BODY, 150 LB, THDF			No	9		
1.2.15		GATE VALVE DN350 PN16 RF STL SANS 1123			No	2		
1.2.16		GATE VALVE DN100 PN16 RF STL SANS 1123			No	1		
1.2.17		GATE VALVE DN 80 PN16 RF STL SANS 1123			No	1		
1.2.18		GLOBE VALVE DN 80 PN16 RF STL SANS 1123			No	1		
1.2.19		PILOT OPERATED FLOAT VALVE DN 80 INBAL 7990			No	1		
1.2.20		PRESSURE RELIEF VALVE DN 80 PN16 RF STL SANS 1123			No	2		
1.2.21		DELUGE VALVE DN 150 ELECTRICALLY ACTUATED INBAL SLOW OPENING (WAFER TYPE)			No	1		
1.2.22		DELUGE VALVE DN200 ELECTRICALLY ACTUATED INBAL SLOW OPENING (WAFER TYPE)			No	1		
1.2.23		DELUGE VALVE DN 300; ELECTRICALLY ACTUATED INBAL SLOW OPENING (WAFER TYPE)			No	1		

1.2.24	PRESSURE REDUCING VALVE DN 300; INBAL (WAFER TYPE) (LOCATION TO BE IDENTIFIED ON SITE).	No	1
1.2.25	PILOT OPERATED FLOAT VALVE DN 300 INBAL 7990	No	1
1.2.26	DN 80 ELECTRICALLY ACTUATED STAINLESS STEEL BALL VALVE (ROTORK ACTUATOR) PN16 RF SANS 1123	No	1
1.2.27	ORIFICE PLATE DN 150 WITH 74MM ORIFICE	No	1
1.2.28	SPECTACLE BLIND DN300	No	1
1.2.29	Y-STRAINER - 80MM PN16 ASTM A403-CR-316L	No	1
1.2.30	Y-STRAINER - 100MM FLANGE WN, TABLE 1600/2, RF, SANS 1123, ASTM A105	No	1
1.2.31	T-STRAINER 350MM FLANGE WN, TABLE 1600/2, RF, SANS 1123, ASTM A105	No	2
1.3	FIRE SYSTEM SUPPORTS		
1.3.1	S355 JR PLATE 300MM X 300MM X 10MM	No	60
1.3.2	S355 JR 152MM X 152MM X 23 UNIVERSAL COLUMN	m	36
1.3.3	S355 JR 200MM X 75MM X 25 PARALLEL FLANGE CHANEL	m	12
1.3.4	S355 JR 152MM X 75MM X 18 PARALLEL FLANGE CHANEL	m	12
1.3.5	S355 JR 60MM X 60MM X 8MM EQUAL ANGLE	m	36
1.3.6	M12X220 BOLT SET GR 8.8 SANS 1700	No	105
1.3.7	M12 GR 8.8 W/ GR 8.8 NUTS & WASHERS GALVO SANS 1700	No	400
1.3.8	M20X160 HILTI ER 500 HD CHEMICAL ANCHOR WITH NUT & WASHERS	No	105
1.4	FIRE SYSTEM STRAIGHT, BENDING, REDUCING OR T-CONNECTION PIPEWORK		
	SS TUBING ASTM A269, 0,035" WT, 15 MMØ	m	20
1.4.1	PIPE STL ERW SANS 62 HEAVY DN 25	m	114
1.4.2	ASTM A312 GR TP 316L, SCH 10, 50 MMØ	m	18
1.4.3	PIPE STL ERW SANS 62 HEAVY DN 50	m	6
1.4.4	ASTM A312 GR TP 316L, SCH 10, 80 MMØ	m	72
1.4.5	PIPE STL ERW SANS 62 HEAVY DN 80	m	18
1.4.6	PIPE STL ERW SANS 62 HEAVY CS DN 100	m	12
1.4.7	PIPE STL ERW SANS 62 HEAVY PE DN 150	m	480
1.4.8	PIPE STL 6MM WALL ERW STL SANS 719-B DN 200	m	6
1.4.9	PIPE STL 6MM WALL ERW STL SANS 719-B DN 300	m	60
1.4.10	PIPE STL 6MM WALL ERW STL SANS 719-B DN 350	m	18
1.4.11	ELBOW 90 DEG LR STL WELDED JIS B2311 DN 25	No	50
1.4.12	ELBOW 90 DEG LR ASTM A312 GR TP 316L WELDED JIS B2311 DN 50	No	10
1.4.13	ELBOW 90 DEG LR ASTM A312 GR TP 316L WELDED JIS B2311 DN 80	No	25
1.4.14	ELBOW 90 DEG LR STL WELDED JIS B2311 DN 100	No	3
1.4.15	ELBOW 90 DEG LR STL WELDED JIS B2311 DN 150	No	18
1.4.16	ELBOW 90 DEG LR STL WELDED JIS B2311 DN 200	No	1
1.4.17	ELBOW 90 DEG LR STL WELDED JIS B2311 DN 300	No	5
1.4.19	TEE ASTM A403-CR-316L WELDED JIS B2311 DN 80	No	5
1.4.20	TEE STL WELDED JIS B2311 DN 300	No	8
1.4.21	RED TEE ASTM A403-CR-316L WELDED JIS B2311 DN 80 X DN 50	No	3
1.4.22	RED TEE STL WELDED JIS B2311 DN 150 X DN 100	No	8
1.4.23	RED TEE STL WELDED JIS B2311 DN 300 X DN 150	No	2
1.4.24	RED TEE STL WELDED JIS B2311 DN 300 X DN 150	No	1
1.4.25	REDUCER CONC STL WELDED JIS B2311 DN 80 X DN 50	No	3
1.4.26	REDUCER CONC ASTM A403-CR-316L WELDED JIS B2311 DN 80 X DN 50	No	1
1.4.27	REDUCER CONC STL WELDED JIS B2311 DN 100 X DN 80	No	1
1.4.28	REDUCER CONC ASTM A403-CR-316L WELDED JIS B2311 DN 100 X DN 80	No	2
1.4.29	REDUCER CONC STL WELDED JIS B2311 DN 150 X DN 100	No	2
1.4.30	LATERAL 45 DEG FABRICATED SPEC PIPE SANS 719-B DN 300	No	2
1.4.31	REDUCER CONC STL WELDED JIS B2311 DN 200 X DN 150	No	1
1.4.32	REDUCER CONC STL WELDED JIS B2311 DN 300 X DN 200	No	4
1.4.33	REDUCER CONC STL WELDED JIS B2311 DN 300 X DN 250	No	2
1.4.34	REDUCER ECC STL WELDED JIS B2311 DN 100 X DN 80	No	1
1.4.35	REDUCER ECC STL WELDED JIS B2311 DN 350 X DN 200	No	2
1.5	FIRE SYSTEM NIPPLES, PLUGS OR SOCKETS		

1.5.1	HEXAGON NPT THREADED NIPPLE DN 25	No	22		
1.5.2	HEXAGON NPT THREADED NIPPLE DN 15	No	22		
1.5.3	SOCKOLET DN 300ND X 25ND ASTM A234 GR WPB SMLS	No	6		
1.5.4	THREDOLET DN 80ND X 15ND ASTM A403-CR-316L	No	10		
1.5.5	THREDOLET DN 300ND X 15ND ASTM A234 GR WPB SMLS	No	10		
1.5.6	WELDOLET DN 300ND X 100ND ASTM A234 GR WPB SMLS	No	1		
1.5.7	HEX PLUG NPT THREADED ASTM A105 25ND	No	6		
1.6	<u>FIRE SYSTEM FLANGES</u>				
1.6.1	FLANGE BLIND DN 50 SS 1600/8 RF SANS 1123	No	3		
1.6.2	FLANGE BLIND DN 80 SS 1600/8 RF SANS 1123	No	1		
1.6.3	FLANGE BLIND DN 150 SS 1600/8 RF SANS 1123	No	1		
1.6.4	FLANGE BLIND DN 25 CS 1600/8 RF SANS 1123	No	2		
1.6.5	FLANGE BLIND DN 300 CS 1600/8 RF SANS 1123	No	3		
1.6.6	25 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	20		
1.6.7	100 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	30		
1.6.8	150 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	30		
1.6.9	200 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	9		
1.6.10	250 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	2		
1.6.11	300 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	37		
1.6.12	350 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	10		
1.6.13	50 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	2		
1.6.14	80 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, CS, HEAVY WT	No	5		
1.6.15	50 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, SS, HEAVY WT	No	10		
1.6.16	80 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, SS, HEAVY WT	No	20		
1.6.17	100 ND, FLANGE WN, TABLE 1600/2, RF, SANS 1123, SS, HEAVY WT	No	3		
1.6.18	STEEL PUDDLE FLANGE DN 350	No	4		
1.6.19	STEEL PUDDLE FLANGE DN 300	No	3		
1.6.20	STEEL PUDDLE FLANGE DN 100	No	2		
1.6.21	STAINLESS STEEL PUDDLE FLANGE DN 80	No	1		
1.7	<u>FIRE STATION FLANGE ADAPTORS, DISMANTLING JOINTS AND QUICK COUPLERS</u>				
1.7.1	RUBBER BELLOWS FOR FRP TANK 80 NB TABLE 1600/2, RF, SANS 1123 STAINLESS STEEL FLANGES	No	1		
1.7.2	RUBBER BELLOWS FOR FRP TANK 100 NB TABLE 1600/2, RF, SANS 1123 STAINLESS STEEL FLANGES	No	1		
1.7.3	DISMANTLING JOINT DN 200	No	2		
1.7.4	DISMANTLING JOINT DN 50	No	3		
1.7.5	QUICK COUPLER DN 80	No	1		
1.7.6	FIRE BRIGADE BOOSTER CONNECTION DN 80	No	2		
1.7.7	FIRE HYDRANT VALVE CONNECTION DN 80 BRASS	No	10		
1.8	<u>FIRE SYSTEM STORAGE TANK REFURBISHMENT, ACCESSORIES, COUPLINGS AND FIRE FIGHTING ANCILLARIES</u>				
1.8.1	FARMER'S GAUGES	No	2		
1.8.2	FOAM CONCENTRATE STORAGE TANK WITH BREATHER/AIR VENT AND HAND RAILINGS	No	1		
1.8.3	FOAM CONCENTRATE 1% AFFF	M3	15		
1.8.4	CAT LADDER FOR PANEL TANK 3440MM IN HEIGHT	No	1		
1.8.5	INSIDE TANK LADDER 2400MM IN HEIGHT	No	1		
1.8.6	ACCESS HATCH WITH MANHOLE COVERS	No	2		
1.8.7	DIESEL STORAGE DAY TANK FOR FIRE PUMP (500L EACH)	No	2		
1.8.8	QUICK COUPLER - MALE (BOOSTER CONNECTION)	No	2		
1.8.9	VORTEX INHIBITOR (CONCRETE WATER STORAGE TANK) DN 350	No	2		
1.8.10	VORTEX INHIBITOR (CONCRETE WATER STORAGE TANK) DN 150	No	1		
1.8.11	SINGLE HEADER FIRE HYDRANT C/W STEEL HOSE BOX CONTAINING 2 X FIRE HOSE AND 1 X NOT SHOWN IN THE P&IDSZZLE (65MM STORZ)	No	10		
1.8.12	DN 150 FIRE WATER RETICULATION VALVE (PN 16)	No	9		
1.8.13	PANEL TANK REFURBISHMENT INTERNALLY (PROVISIONAL ALLOWANCE)	No	Prov.Sum		R 600,000.00
1.8.14	PANEL TANK REFURBISHMENT EXTERNALLY (PROVISIONAL ALLOWANCE)	No	Prov.Sum		R 200,000.00
1.9	<u>FIRE SYSTEM GASKETS</u>				

1.9.1	GASKET DN 100 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	25		
1.9.2	GASKET DN 150 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	40		
1.9.3	GASKET DN 200 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	16		
1.9.4	GASKET DN 250 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	4		
1.9.5	GASKET DN 300 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	42		
1.9.6	GASKET DN 350 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	15		
1.9.7	GASKET DN 25 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	25		
1.9.8	GASKET DN 50 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	25		
1.9.9	GASKET DN 80 1600KPA SANS/BS RF KLINGER TOPCHEM 2005 3MM THK OR SIMILAR APPROVED EQUIVALENT	No	35		
1.10.1	M16X100 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	30		
1.10.2	M16X150 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	8		
1.10.3	M16X175 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	65		
1.10.4	M16X270 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	8		
1.10.5	M20X130 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	80		
1.10.6	M20X220 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	135		
1.10.7	M20X250 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	20		
1.10.8	M24X190 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	20		
1.10.9	M24X230 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	105		
1.10.10	M24X140 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	90		
1.10.11	M24X325 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	40		
1.10.12	M24X150 BOLT SET GR 8.8 W/ GR 8.8 NUT & WASHERS GALVO SANS 1700	No	12		
1.10.13	M16X100 BOLT SET STAINLESS STEEL NUT & WASHERS SANS 1700	No	320		
1.10.14	M16X175 BOLT SET STAINLESS STEEL NUT & WASHERS SANS 1700	No	30		
1.10.15	M16X275 BOLT SET STAINLESS STEEL NUT & WASHERS SANS 1700	No	20		
1.10.16	M20X120 BOLT SET STAINLESS STEEL NUT & WASHERS SANS 1700	No	75		
1.11	FIRE ADDITIONAL COMPONENTS				
1.11.1	GOOSENECK VENT ON VESSEL 15 M3 FOAM TANK	No	1		
1.11.2	GOOSENECK VENT ON VESSEL 0.35 M3 FIRE PUMP DIESEL TANK	No	2		
1.11.3	PRESSURE CONTROL VALVE DN150 SET @ 1200 KPA	No	1		
1.11.4	PRESSURE REGULATING VALVE DN80 SET @ 1450 KPA	No	1		
1.11.5	LEVEL INDICATOR FLANGED CONNECTION DN25	No	2		
1.11.6	LEVEL INDICATOR EXTERNALLY MOUNTED ON 0.35 M3 FIRE PUMP DIESEL TANK	No	2		
1.11.7	LEVEL INDICATOR INTERNALLY MOUNTED ON 15 M3 FOAM TANK	No	1		
1.11.8	LEVEL CONTROL VALVE DN350 INBAL TYPE	No	1		
1.11.9	LEVEL CONTROL VALVE DN80 INBAL TYPE	No	1		
1.11.10	ON/OFF VALVE DN200 INBAL/BLADDER TYPE	No	1		
1.11.11	ON/OFF VALVE DN300 INBAL/BLADDER TYPE	No	1		
1.11.12	ON/OFF VALVE DN150 INBAL/BLADDER TYPE	No	1		
1.11.13	CUTTING AND BLANKING OFF OF HYDRANTS	No	2		
	CARRIED TO FINAL SUMMARY PAGE				R 800,000.00

TRANSNET PIPELINES

TENDER NO.

AUTOMATIC FOAM FIRE PROTECTION SYSTEM FOR TRANSNET'S CAPACITY PLAN UPGRADE AT
TRANSNET'S SECUNDA DEPOT, MPUMALANGA PROVINCE, SOUTH AFRICA

SCHEDULE OF QUANTITIES

NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK

SCHEDULE: FIRE PUMP AND WATER CIVILS

2.2 CIVIL		PROJECT: SECUNDA DEPOT TELE-MECHANICAL PHASE 2 UPGRADE	UNIT	QTY	RATE	AMOUNT
ITEM	PAYMENT	DESCRIPTION				
		FIRE PUMP STATION AND WATER RESERVOIR				
0	SANS 1200 C	SITE CLEARANCE				
0.1	8.2.1	CLEAR AND GRUB:	m ²	225.00		
0.2	8.2.5	TAKE DOWN EXISTING FENCES	m	25.00		
0.3		REINSTATE EXISTING FENCES	m	25.00		
0.4	8.2.8	DEMOLISH AND REMOVE STRUCTURES/BUILDINGS AND DISMANTLE STEELWORK				
0.4.1	8.2.8	CONCRETE WATER TANK	Sum	0.00		
0.4.2	8.2.8	FIRE PUMP STATION STRUCTURE	Sum	1.00		
0.4.3	8.2.8	EXISTING CONCRETE PIPE RACK SURFACE BED AND PLINTHS	m ³	130.00		
0.5	8.2.9	TRANSPORT MATERIALS AND DEBRIS TO UNSPECIFIED SITES AND DUMP	m ³ .km	6000.00		
0.6	8.2.10	REMOVE TOPSOIL TO NOMINAL DEPTH OF 150 MM AND STOCKPILE	m ³	33.75		
1	SANS 1200 D	EARTHWORKS				
1.1	8.3.2	BULK EXCAVATION				
1.1.1	8.3.2.A	EXCAVATE IN ALL MATERIALS AND USE FOR EMBANKMENT OR BACKFILL OR DISPOSE, AS ORDERED	m ³	240.00		
1.1.2	8.3.2.B	EXTRA-OVER FOR				
1.1.2.1	8.3.2.B.1	INTERMEDIATE EXCAVATION	m ³	30.00		
1.1.2.2	8.3.2.B.2	HARD ROCK EXCAVATION (PROVISIONAL)	m ³	10.00		
1.1.2.3	8.3.2.B.3	BOULDER EXCAVATION, CLASS A (PROVISIONAL)	m ³	10.00		
1.1.2.4	8.3.2.B.4	BOULDER EXCAVATION, CLASS B (PROVISIONAL)	m ³	10.00		
1.2	8.3.3	RESTRICTED EXCAVATION				
1.2.1	8.3.3.A	EXCAVATE FOR RESTRICTED FOUNDATIONS, FOOTINGS AND PIPE TRENCHES IN ALL MATERIALS AND USE FOR BACKFILL OR EMBANKMENT OR DISPOSE, AS ORDERED	m ³	142.50		
1.2.1	8.3.3.B	EXTRA-OVER FOR				
1.2.1.1	8.3.3.B.1	INTERMEDIATE EXCAVATION	m ³	14.25		
1.2.1.2	8.3.3.B.2	HARD ROCK EXCAVATION (PROVISIONAL)	m ³	10.00		
1.2.1.3	8.3.3.B.3	BOULDER EXCAVATION, CLASS A (PROVISIONAL)	m ³	10.00		
1.2.1.4	8.3.3.B.4	BOULDER EXCAVATION, CLASS B (PROVISIONAL)	m ³	10.00		
1.2.1.5		HAND EXCAVATION	m ³	6.00		
1.3	8.3.4	IMPORTING MATERIALS				
1.3.1	8.3.4.A	IMPORTATION OF FILL MATERIAL FROM COMMERCIAL SOURCES:				
1.3.1.1	8.3.4.A	150MM THICK LAYERS, G7 MATERIAL, COMPACTED TO 90% OF MODIFIED AASHTO DENSITY	m ³	64.00		
1.3.1.2	8.3.4.A	150MM THICK LAYERS, G6 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY	m ³	165.00		
1.3.1.3	8.3.4.A	150MM THICK LAYERS, G5 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY	m ³	64.00		
1.4	8.3.5	EXTRA EXCAVATION IN ALL MATERIALS TO PROVIDE WORKING SPACE AROUND STRUCTURE	m ³	16.00		
1.5	8.3.6	OVERHAUL				
1.5.1	8.3.6	LONG OVERHAUL	m ³ .km	4700.00		
1.6	8.3.7	ADDITIONAL LATERAL SUPPORT				
1.6.1	8.3.7A	ENSURING THE STABILITY OF EXCAVATIONS NEXT TO EXISTING INFRASTRUCTURE (I.E. WATER TANK)	m ²	50		

1.7	8.3.8	EXISTING SERVICES			
1.7.1	8.3.8.1	LOCATION			
1.7.1.1	8.3.8.1.A	ESTABLISHMENT (UNLESS HIRED UNDER ITEM B) OF SPECIALIST EQUIPMENT FOR SERVICE DETECTION	Sum	1	
1.7.1.2	8.3.8.1.B	THE USE OR HIRE OF SPECIALIST EQUIPMENT FOR SERVICE DETECTION (PROVISIONAL)	hr	16	
1.7.1.3	8.3.8.1.C	EXCAVATE BY HAND IN SOFT MATERIAL TO EXPOSE SERVICES	m³	10	
1.8.1	8.3.8.2	DEALING WITH SERVICES THAT ARE AT RISK BECAUSE OF THE CONSTRUCTION OF EARTHWORKS			
1.8.1.1	8.3.8.2.A	CABLES	No	5	
1.8.1.2	8.3.8.2.B	PERMANENT PROTECTION OF SERVICES (PROVISIONAL)	No	3	
1.8.1.3	8.3.8.2.C	TEMPORARY PROTECTION OF SERVICES (PROVISIONAL)	No	3	
1.9	8.3.10	TOPSOILING	m²	20.00	
1.10	8.3.11	GRASSING OR OTHER VEGETATION COVER:			
1.10.1	8.3.11	PLANTING OF GRASS CUTTINGS IN ACCORDANCE WITH EXISTING AS INSTRUCTED BY ENGINEER	m²	20.00	
2	SANS 1200 DB	EARTHWORKS (PIPE TRENCHES)			
	SANS 1200 DB	<u>TRENCHES FOR WATER PIPES</u>			
2.1	8.3.2	EXCAVATION			
2.1.1	8.3.2.A	EXCAVATE IN ALL MATERIALS FOR TRENCHES, BACKFILL, COMPACT AND DISPOSE OF SURPLUS MATERIAL:			
2.1.1.1	8.3.2.A	PIPES OVER 50 MM DIA UP TO 700 MM DIA FOR DEPTHS:			
2.1.1.1.A	8.3.2.A	UP TO 1,0 M	m	23.00	
2.1.1.1.B	8.3.2.A	OVER 1,0 M UP TO 2,0 M	m	21.00	
2.1.2	8.3.2.B	EXTRA OVER ITEM 2.1.1 ABOVE FOR:			
2.1.2.1	8.3.2.B	INTERMEDIATE EXCAVATION (PROVISIONAL)	m³	10.00	
2.1.2.2	8.3.2.B.1	HARD ROCK EXCAVATION (PROVISIONAL)	m³	10.00	
2.1.2.3		HAND EXCAVATION WHERE ORDERED BY THE ENGINEER			
2.1.2.3.A		SOFT MATERIAL	m³	2.20	
2.1.3	8.3.2.C	EXCAVATE AND DISPOSE OF UNSUITABLE MATERIAL FROM TRENCH BOTTOM	m³	3.30	
2.2	8.3.3	EXCAVATION ANCILLARIES:			
2.2.1	8.3.3.1	MAKE UP DEFICIENCY IN BACKFILL MATERIAL OPENING UP AND CLOSING DOWN OF			
2.2.1.1	8.3.3.1.A	FROM OTHER NECESSARY EXCAVATIONS ON SITE	m³	5.00	
2.2.1.2	8.3.3.1.C	BY IMPORTATION FROM COMMERCIAL SOURCES SELECTED BY THE CONTRACTOR	m³	5.00	
2.2.2	8.3.3.3	COMPACTION IN ROAD CROSSINGS	m²	11.00	
2.2.3	8.3.3.4	OVERHAUL			
2.2.3.1	8.3.3.4S	LONG OVERHAUL	m³.km	600.00	
2.3	8.3.4	PARTICULAR ITEMS:			
2.3.1	8.3.4..A	SHORE TRENCHES OF PIPES EXCAVATED TO A DEPTH OVER 1 M (PROVISIONAL)	m	15.00	
2.3.2	8.3.2	BACKFILL STABILIZED WITH 5% CEMENT WHERE DIRECTED BY THE ENGINEER	m³	0.55	
2.3.3	8.3.2	SOILCRETE OR SIMILAR APPROVED EQUIVALENT BACKFILL WHERE DIRECTED BY THE ENGINEER	m³	6.75	
2.4	8.3.5	EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH			
2.4.1	8.3.5.A	SERVICES THAT INTERSECT A TRENCH	No	10.00	
2.4.2	8.3.5.B	SERVICES THAT ADJOIN A TRENCH	m	25	
	SANS 1200 DB	<u>TRENCHES FOR STORMWATER</u>			
2.5	8.3.2	EXCAVATION FOR STORMWATER INLET AND OUTLET STRUCTURES AND FOR MANHOLES, CATCHPITS, VALVE CHAMBERS AND THE LIKE, IRRESPECTIVE OF DEPTH, AND BACKFILL AROUND STRUCTURES			
2.5.1	8.3.2.A	EXCAVATE IN ALL MATERIALS FOR TRENCHES, BACKFILL, COMPACT AND DISPOSE OF SURPLUS MATERIAL:			
2.5.1.1	8.3.2.A	STORMWATER CHANNELS UP TO 650 MM WIDE			
2.5.1.1.A	8.3.2.A	UP TO 1,0 M	m	55.00	
2.5.2	8.3.2.B	EXTRA OVER ITEM 2.1.1 ABOVE FOR:			
2.5.2.1	8.3.2.B	INTERMEDIATE EXCAVATION (PROVISIONAL)	m³	10.00	
2.5.2.2	8.3.2.B.1	HARD ROCK EXCAVATION (PROVISIONAL)	m³	10.00	

2.5.2.3	8.3.2	HAND EXCAVATION WHERE ORDERED BY THE ENGINEER				
2.5.2.3.A	8.3.2	SOFT MATERIAL	m³	2.00		
2.5.3	8.3.2.C	EXCAVATE AND DISPOSE OF UNSUITABLE MATERIAL FROM TRENCH BOTTOM (PROVISIONAL)	m³	10.00		
2.6	8.3.3	EXCAVATION ANCILLARIES:				
2.6.1	8.3.3.1	MAKE UP DEFICIENCY IN BACKFILL MATERIAL OPENING UP AND CLOSING DOWN OF				
2.6.1.1	8.3.3.1.A	FROM OTHER NECESSARY EXCAVATIONS ON SITE	m³	5.00		
2.6.1.2	8.3.3.1.C	BY IMPORTATION FROM COMMERCIAL SOURCES SELECTED BY THE CONTRACTOR	m³	5.00		
2.6.2	8.3.3.3	COMPACTION IN ROAD CROSSINGS (PROVISIONAL)	m³	10.00		
2.6.3	8.3.3.4	OVERHAUL				
2.6.3.1	8.3.3.4S	LONG OVERHAUL	m³.km	600.00		
2.7	8.3.4	PARTICULAR ITEMS:				
2.7.1	8.3.4..A	SHORE TRENCHES OF PIPES EXCAVATED TO A DEPTH OVER 1 M (PROVISIONAL)	m	15.00		
2.7.2	8.3.2	BACKFILL STABILIZED WITH 5% CEMENT WHERE DIRECTED BY THE ENGINEER (PROVISIONAL)	m³	10.00		
2.7.3	8.3.2	SOILCRETE OR SIMILAR APPROVED EQUIVALENT BACKFILL WHERE DIRECTED BY THE ENGINEER (PROVISIONAL)	m³	10.00		
2.8	8.3.5	EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH				
2.8.1	8.3.5.A	SERVICES THAT INTERSECT A TRENCH	No	10.00		
2.8.2	8.3.5.B	SERVICES THAT ADJOIN A TRENCH	m	25		
	SANS 1200 DB	<u>TRENCHES FOR DUCTS</u>				
2.9	8.3.2	EXCAVATION				
2.5.1	8.3.2.A	EXCAVATE IN ALL MATERIALS FOR TRENCHES, BACKFILL, COMPACT AND DISPOSE OF SURPLUS MATERIAL:				
2.5.1.1	8.3.2.A	TRENCHES NOT MORE THAN 600 MM WIDE				
2.5.1.1.A	8.3.2.A	UP TO 1,0 M	m	56.00		
2.5.2	8.3.2.B	EXTRA OVER ITEM 2.1.1 ABOVE FOR:				
2.5.2.1	8.3.2.B	INTERMEDIATE EXCAVATION (PROVISIONAL)	m³	16.80		
2.5.2.2	8.3.2.B.1	HARD ROCK EXCAVATION (PROVISIONAL)	m³	8.40		
2.5.2.3	8.3.2	HAND EXCAVATION WHERE ORDERED BY THE ENGINEER				
2.5.2.3.A	8.3.2	SOFT MATERIAL	m³	33.60		
2.5.3	8.3.2.C	EXCAVATE AND DISPOSE OF UNSUITABLE MATERIAL FROM TRENCH BOTTOM	m³	3.00		
2.6	8.3.3	EXCAVATION ANCILLARIES:				
2.6.1	8.3.3.1	MAKE UP DEFICIENCY IN BACKFILL MATERIAL OPENING UP AND CLOSING DOWN OF				
2.6.2	8.3.3.3	COMPACTION IN ROAD CROSSINGS	m³	10.00		
2.6.3	8.3.3.4	OVERHAUL				
2.6.3.1	8.3.3.4S	LONG OVERHAUL	m³.km	600.00		
2.7	8.3.4	PARTICULAR ITEMS:				
2.7.1	8.3.4..A	SHORE TRENCHES OF PIPES EXCAVATED TO A DEPTH OVER 1 M (PROVISIONAL)	m	15.00		
2.7.2	8.3.2	BACKFILL STABILIZED WITH 5% CEMENT WHERE DIRECTED BY THE ENGINEER	m³	12.60		
2.7.3	8.3.2	SOILCRETE OR SIMILAR APPROVED EQUIVALENT BACKFILL WHERE DIRECTED BY THE ENGINEER (PROVISIONAL)	m³	5.00		
2.8	8.3.5	EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH				
2.8.1	8.3.5.A	SERVICES THAT INTERSECT A TRENCH	No	10.00		
2.8.2	8.3.5.B	SERVICES THAT ADJOIN A TRENCH	m	25		
3	SANS 1200 DM	LAYER WORKS				

3.1	8.3.3	TREATMENT OF ROADBED:				
3.1.1	8.3.3.A.1	RIP AND RECOMPACT IN-SITU G9 MATERIAL TO 90% OF MODIFIED AASHTO DENSITY:				
3.1.1.1	8.3.3.A.1	UNDER CABLE TRENCHES (PROVISIONAL)	m³	3.00		
3.1.1.2	8.3.3.A.1	UNDER PIPE TRENCHES (PROVISIONAL)	m³	3.00		
3.1.1.3	8.3.3.A.1	UNDER BUILDING FOUNDATIONS	m³	9.00		
3.1.1.4	8.3.3.A.1	UNDER CONCRETE SLABS	m³	39.00		
3.1.1.5	8.3.3.A.1	UNDER PAVING BLOCKS	m³	12.00		
3.1.1.6	8.3.3.A.1	UNDER CONCRETE SLABS	m³	11.10		
3.2	8.3.5	SELECTED LAYER COMPACTED TO 95% OF MODIFIED AASHTO MAXIMUM DENSITY - BUILDING FOUNDATIONS				
3.2.1	8.3.5	4 X 150MM THICK LAYERS G6 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY	m³	34.80		
3.3	8.3.5	CONCRETE SLABS				
3.3.1	8.3.5	150MM THICK CONCRETE SURFACE BED AS PER STRUCTURAL ENGINEER'S DETAILS	m³	24.00		
3.3.2	8.3.5	150MM THICK BASE LAYER G5 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY (PROVISIONAL)	m³	10.00		
3.3.3	8.3.5	150MM THICK SUB-BASE LAYER G6 MATERIAL, COMPACTED TO 93% OF MODIFIED AASHTO DENSITY	m³	96.00		
3.3.4	8.3.5	150MM THICK SELECTED LAYER G7 MATERIAL, COMPACTED TO 90% OF MODIFIED AASHTO DENSITY	m³	24.00		
3.4	8.3.5	SELECTED LAYER WORK FOR PAVING BLOCKS				
3.4.1	8.3.5	25MM THICK SAND BEDDING LAYER (RIVER SAND)	m³	2.40		
3.4.2	8.3.5	150MM THICK BASE LAYER G2 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY	m³	12.00		
3.4.3	8.3.5	150MM THICK BASE LAYER G5 MATERIAL, COMPACTED TO 95% OF MODIFIED AASHTO DENSITY	m³	12.00		
3.4.4	8.3.5	150MM THICK SUB-BASE LAYER G7 MATERIAL, COMPACTED TO 93% OF MODIFIED AASHTO DENSITY	m³	12.00		
3.4.5	8.3.5	150MM THICK SELECTED LAYER G7 MATERIAL, COMPACTED TO 90% OF MODIFIED AASHTO DENSITY	m³	12.00		
3.4.6	SANS 1200 MJ	SEGMENTED PAVING				
3.4.6.1	8.2.2	CONSTRUCTION OF PAVING COMPLETED: 80MM THICK INTERLOCKING SEGMENTED PAVERS: SUPPLY AND INSTALL INTERLOCKING SEGMENTED PAVING TO SANS 1058 TYPE S-A, 35MPA, PACKED IN A HERRINGBONE PATTERN. ALLOW FOR JOINTING SAND AND ROLLING TO INTERLOCKING CONDITION AND CUTTING	m²	80.00		
3.4.6.2	8.2.3	CUTTING UNITS TO FIT EDGE RESTRAINTS	m	20.00		
3.4.6.3	8.2.4	ROLLING TO LOCKED-UP CONDITION	m²	80.00		
4	SANS 1200 G	CONCRETE (STRUCTURAL)				
		<u>SCHEDULED FORMWORK ITEMS</u>				
4.1	8.2.1	ROUGH:				
4.1.1	8.2.1	HORIZONTAL FORMWORK TO:				
4.1.1.1	8.2.1	BOTTOM OF SLABS (PROVISIONAL)	m²	10.00		
4.1.1.2	8.2.1	BOTTOM OF TANK ROOF (PROVISIONAL)	m²	10.00		
4.1.2	8.2.1	VERTICAL FORMWORK TO:				
4.1.2.1	8.2.1	SIDES OF FOUNDATIONS	m²	46.08		
4.2	8.2.2	SMOOTH:				
4.2.1	8.2.2	VERTICAL FORMWORK TO:				
4.2.1.1	8.2.2	SIDES OF PIPE SUPPORTS	m²	72.00		
4.2.1.2	8.2.2	SIDES OF NIB WALLS	m²	8.10		
4.2.1.3	8.2.2	SIDES OF PLINTHS	m²	35.71		
4.2.1.4	8.2.2	SIDES OF DWARF WALLS (PROVISIONAL)	m²	5.00		
4.2.1.5	8.2.2	SIDES OF THRUST BLOCK (PROVISIONAL)	m²	5.00		
4.3	8.2.3	SPECIAL SMOOTH, REPAIRED AND RUBBED:				
4.3.1	8.2.3	VERTICAL FORMWORK TO:				
4.3.1.1	8.2.3	SIDES OF TANKS (PROVISIONAL)	m²	15.00		
4.4	8.2.5	NARROW WIDTHS (UP TO 300 MM WIDE):				
4.4.1	8.2.5	DIFFERENT WIDTHS IN THE FOLLOWING RANGES:				

4.4.1.1	8.2.5	OVER 200 MM AND UP TO 300 MM	m	10.00		
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		SCHEDULED REINFORCEMENT ITEMS			
4.5	8.3.1	HIGH-TENSILE BARS IN THE FOLLOWING:			
4.5.1	8.3.1	PUMP STATION FOUNDATION	T	1.88	
4.5.2	8.3.1	ROOF SLABS (PROVISIONAL)	T	1.00	
4.5.3	8.3.1	PUMP STATION SURFACE BED	T	1.92	
4.5.4	8.3.1	TANKS (PROVISIONAL)	T	1.00	
4.5.5	8.3.1	PUMPS AND FOAM TANK PLINTHS	T	0.78	
4.5.6	8.3.1	RESERVOIR FOUNDATION (PROVISIONAL)	T	1.00	
4.5.7	8.3.1	DWARF WALLS (PROVISIONAL)	T	1.00	
4.5.8	8.3.1	PIPE SUPPORT FOUNDATIONS	T	0.40	
4.5.9	8.3.1	PARAPETS	T	0.12	
4.5.11	8.3.1	STORMWATER CHANNELS	T	1.01	
4.5.12	8.3.1	DRAW BOXES	T	0.23	
4.5.13	8.3.1	PUMP STATION APRON	T	0.62	
4.5.14	8.3.1	STEEL WATER TANK APRON	T	0.55	
4.6	8.3.2	HIGH-TENSILE WELDED MESH			
4.6.1	8.3.2	PUMP STATION FOUNDATION	T	1.88	
4.6.2	8.3.2	PUMP STATION SURFACE BED	T	1.92	
4.6.3	8.3.2	PUMPS AND FOAM TANK PLINTHS	T	0.78	
4.6.4	8.3.2	PIPE SUPPORT FOUNDATIONS	T	0.40	
4.6.5	8.3.2	PARAPETS	T	0.12	
4.6.6	8.3.2	STORMWATER CHANNELS	T	1.01	
4.6.7	8.3.2	DRAW BOXES	T	0.23	
4.6.8	8.3.2	PUMP STATION APRON	T	0.62	
4.6.9	8.3.2	STEEL WATER TANK APRON	T	0.55	
		SCHEDULED CONCRETE ITEMS			
4.7	8.4.2	BLINDING LAYER			
4.7.1		BLINDING LAYER IN 10MPA/19 CONCRETE			
4.7.1.1	8.4.2	0.1 MINIMUM 50 MM THICK BLINDING UNDER ALL FOUNDATIONS	m³	12.96	
4.8	8.4.3	STRENGTH CONCRETE:			
4.8.1		CLASS 30 MPA / 19 MM CONCRETE IN:			
4.8.1.1	8.4.3	PUMP STATION FOUNDATIONS	m³	15.67	
4.8.1.2	8.4.3	ROOF SLABS (PROVISIONAL)	m³	5.00	
4.8.1.3	8.4.3	PUMP STATION SURFACE BED	m³	24.00	
4.8.1.4	8.4.3	TANKS (PROVISIONAL)	m³	2.50	
4.8.1.5	8.4.3	PUMPS AND FOAM TANK PLINTHS	m³	6.50	
4.8.1.6	8.4.3	RESERVOIR FOUNDATION (PROVISIONAL)	m³	2.50	
4.8.1.7	8.4.3	DWARF WALLS (PROVISIONAL)	m³	2.50	
4.8.1.8	8.4.3	PIPE SUPPORT FOUNDATIONS	m³	5.00	
4.8.1.9	8.4.3	NIB WALLS	m³	1.22	
4.8.1.10	8.4.3	THRUST BLOCKS (PROVISIONAL)	m³	2.50	
4.8.1.11	8.4.3	STORMWATER CHANNELS	m³	12.65	
4.8.1.12	8.4.3	DRAW BOXES	m³	2.88	
4.8.1.13	8.4.3	PUMP STATION APRON	m³	7.80	
4.8.1.14	8.4.3	STEEL WATER TANK APRON	m³	6.84	
4.9	8.4.4	UNFORMED SURFACE FINISHES:			
4.9.1	8.4.4.A	WOOD-FLOATED FINISHES TO:			
4.9.1.1	8.4.4.A	TOP OF STAIR FOOTINGS (PROVISIONAL)	m²	10.00	
4.9.1.2	8.4.4.A	TOP OF TANKS (PROVISIONAL)	m²	10.00	
4.9.1.3	8.4.4.A	TOP OF PIPE SUPPORT FOUNDATIONS	m²	10.00	
4.9.1.4	8.4.4.A	TOP OF SLABS	m²	160.00	

4.9.1.5	8.4.4.A	TOP OF CHANNELS	m²	23.00		
4.9.1.6	8.4.4.A	TOP OF APRON SLABS	m²	80.00		
4.10	8.4.4.B	STEEL-FLOATED FINISHES TO:				
4.10.1	8.4.4.B	TOP OF PLINTHS AND DWARF WALLS	m²	4.32		
4.11	8.4.4.D	CHAMFERS:				
4.11.1	8.4.4.D	25 X 25 MM CHAMFERS TO ALL EDGES	m	25.44		
4.12	8.2.6	BOX-OUT HOLES:				
4.12.1	8.2.6.D	800 X 800 MM BOX-OUT HOLES	No	4.00		
4.13	8.5	JOINTS:				
4.13.1	8.5	ISOLATION JOINTS				
4.13.1.1	8.5	10 MM POLYETHYLENE JOINT BETWEEN CONCRETE SURFACE AND BRICKWORK, 150 MM HIGH WITH 10 MM DOW CORNING OR SIMILAR APPROVED EQUIVALENT	m	74.00		
4.13.2	8.5	SAWN JOINTS:				
4.13.2.1	8.5	3 MM X 40 MM SAW-CUT JOINT	m	50.00		
4.13.3	8.5	CONSTRUCTION JOINTS:				
4.13.4.1	8.5	10 MM CONSTRUCTION JOINT EVERY 10 M IN FLOOR SLABS AND FOUNDATIONS OR AS INDICATED ON THE DRAWINGS	m	160.00		
4.14	8.7	GROUTING:				
4.14.1	8.7	UNDER BASE PLATES	m³	2.00		
4.14.2	8.7	HD BOLTS	m³	2.20		
4.14.2	8.7	PUMP BASES & FRAME	m³	1.80		
4.15		SCREED:				
4.15.1	8.4.6	30 MM THICK TO FALL ON CONCRETE SLAB	m²	140.64		
4.16	8.8	HD BOLTS AND MISCELLANEOUS METAL WORK				
4.16.1	8.8	SUPPLY AND INSTALL HILTI HIT-HY50 CHEMICAL ANCHORS WITH HIT-AN, M16 GALVANISED OR SIMILAR APPROVED EQUIVALENT	No	48.00		
4.16.2	8.8	SUPPLY AND INSTALL HILTI HAS-HVU CHEMICAL ANCHORS OR SIMILAR APPROVED EQUIVALENT M20 GALVANISED	No	96.00		
4.16.3	8.8	340 MM DIA PUDDLE FLANGE	No	1.00		
4.16.4	8.8	460 MM DIA PUDDLE FLANGE	No	2.00		
4.16.5	8.8	220 MM DIA PUDDLE FLANGE	No	1.00		
4.16.6	8.8	110 MM DIA PUDDLE FLANGE	No	2.00		
5	SANS 1200 H	STRUCTURAL STEELWORK				
5.1	8.3.1	SUPPLY AND FABRICATION				
5.1.1	8.3.1.1	PREPARATION OF SHOP DETAIL DRAWINGS				
5.1.1.1	8.3.1.1	PUMP STATION STEELWORK (INCLUDING PURLINS)	Sum	1.00		
5.1.1.2	8.3.1.1	STAIRCASES (AT CBR WALL)	Sum	1.00		
5.1.1.3	8.3.1.1	CRAWL BEAMS	Sum	1.00		
5.1.1.4	8.3.1.1	PIPE SUPPORTS	Sum	1.00		
5.1.2	8.3.1.2	SUPPLY AND FABRICATION OF STEELWORK (JOINTING BY WELDING OR BOLTING:)				
5.1.2.1	8.3.1.2	PUMP STATION STEELWORK	T	7.40		
5.1.2.2	8.3.1.2	STAIRCASES (AT CBR WALL)	T	0.40		
5.1.2.3	8.3.1.2	CRAWL BEAMS	T	0.70		
5.1.2.4	8.3.1.2	PIPE SUPPORTS	T	2.00		
5.2	8.3.2	DELIVERY TO SITE:				
5.2.1	8.3.2.1	NORMAL DELIVERY:				
5.2.1.1	8.3.2.1	PUMP STATION STEELWORK	T	7.40		
5.2.1.2	8.3.2.1	STAIRCASES (AT CBR WALL)	T	0.40		
5.2.1.3	8.3.2.1	CRAWL BEAMS	T	0.70		
5.2.1.4	8.3.2.1	PIPE SUPPORTS	T	2.00		
5.3	8.3.3	ERECTION ON SITE:				
5.3.1	8.3.3	PUMP STATION STEELWORK	T	7.40		

5.3.2	8.3.3	STAIRCASES	T	0.40		
5.3.3	8.3.3	CRAWL BEAMS	T	0.70		
5.3.4	8.3.3	PIPE SUPPORTS	T	2.00		
5.4	8.3.4	ERECTION BOLTS				
5.4.1	8.3.4	M20 GRADE 8.8 BOLTS SET	T	0.40		
5.4.2	8.3.4	M24 GRADE 8.8 BOLTS SET (PROVISIONAL)	T	0.05		
5.4.3	8.3.4	M30 GRADE 8.8 BOLTS SET (PROVISIONAL)	T	0.05		
5.4.4	8.3.4	M34 GRADE 8.8 BOLTS SET (PROVISIONAL)	T	0.05		
6	SANS 1200 HA	SUPPLY AND INSTALLATION OF STRUCTURAL STEELWORK (SUNDRY ITEMS)				
6.1	8.3.1	STRUCTURAL STEEL:				
6.1.1	8.3.1	STAIRCASES:				
6.1.1.1	8.3.1	BASE AND END PLATES	T	0.20		
6.1.2	8.3.1	EXISTING WATER TANK				
6.1.2.1	8.3.1	CAT LADDER AND HAND RAILS	T	0.30		
6.2	8.3.2	HANDRAILS:				
6.2.1	8.3.2.C	HANDRAILS (INTER LINK HANDRAILING SYSTEM, GALVANIZED TO SABS 1461, TUBULAR MILD STEEL)				
6.2.1.1	8.3.2.C.1	RAILS ONLY, 34 MM DIA	m	50.00		
6.2.1.2	8.3.2.C.2	43MM EXTERNAL DIAMETER TUBULAR HAND AND KNEE RAIL STANCHION 1025MM HIGH 45 DEGREE TOP MOUNTED COMPLETE WITH BASE PLATE	No	52.00		
6.2.1.3	8.3.2.C.3	BENDS, END CLOSURES AND ACCESSORIES	Lot	1.00		
6.2.1.4	8.3.2.C.4	M16 HD BOLTS, NUTS AND WASHERS FOR EACH STANCHION	No	104		
6.3	8.3.4	FLOORING:				
6.3.1	8.3.4	RS40 RECTAGRID FLOOR GRATING, GALVANISED, HAVING 40 X 4.5 MM THICK BEARER BARS IN BANDED PANELS CUT TO SIZE	m²	30.00		
6.4	8.3.4	STAIR TREADS:				
6.4.1	8.3.4	MILD STEEL, GALVANISED STAIR TREADS, 245 MM WIDE BY 750 MM LONG, BOLTED TO STEELWORK	No	10.00		
6.4.2	8.3.4	MILD STEEL, GALVANISED STAIR TREADS, 245 MM WIDE BY 1 100 MM LONG, BOLTED TO STEELWORK (PROVISIONAL)	No	2.00		
7	SANS 1200 HB	CLADDING AND SHEETING				
7.1	8.2.2	SUPPLY AND INSTALL CLADDING AND SHEETING				
7.1.1	8.2.2	IBR 686 SHEETING 0,58 MM THICK, ISQ 300, CHROMADEK Z200: COLOUR TRAFFIC GREEN, ROOF COVERINGS WITH PITCHES NOT EXCEEDING 25°, FIXED TO STEEL PURLINS	m²	200.00		
7.2	8.2.3	SUPPLY AND INSTALL ANCILLARIES				
7.2.1	8.2.3	FLASHINGS AS PER SUPPLIERS SPECIFICATIONS: COLOUR TRAFFIC GREEN	m	42.00		
7.2.2	8.2.3	RIDGING AS PER SUPPLIERS SPECIFICATIONS: COLOUR TRAFFIC GREEN	m	16.00		
7.3	8.2.3	RAINWATER GOODS:				
7.3.1	8.2.3	DOWN PIPES: 150 MM DIAMETER DOWNPIPE, CHROMADEK 0.58 MM, COLOUR TRAFFIC GREEN	m	40.00		
7.3.2	8.2.3	150 X 300 MM GUTTER, CHROMADEK 0.58 MM, COLOUR TRAFFIC GREEN	m	34.00		
8	SANS 1200 HC	CORROSION PROTECTION OF STRUCTURAL STEELWORK				
8.1	8.1.1	HOT-DIP GALVANISING OF ALL STRUCTURAL STEEL ITEMS IN THE FABRICATION SHOP	T	10.50		
9	SANS 1200 LB	BEDDING (PIPES)				

		<u>BEDDING FOR WATER PIPES</u>				
9.1	8.2.1	PROVISION OF BEDDING FROM TRENCH EXCAVATIONS:				
9.1.1	8.2.1.A	SELECTED GRANULAR MATERIAL AS PER SANS 1200 LB CLAUSE 3.1 (PROVISIONAL)	m³	2.00		
9.1.2	8.2.1.B	SELECTED FILL MATERIAL AS PER SANS 1200 LB CLAUSE 3.2 (PROVISIONAL)	m³	5.00		
9.2	8.2.2	SUPPLY ONLY OF BEDDING BY IMPORTATION:				
9.2.1	8.2.2.3	FROM COMMERCIAL SOURCES:				
9.2.1.1	8.2.2.3.A	SELECTED GRANULAR MATERIAL AS PER SANS 1200 LB CLAUSE 3.1 (PROVISIONAL)	m³	2.00		
9.2.1.2	8.2.2.3.B	SELECTED FILL MATERIAL AS PER SANS 1200 LB CLAUSE 3.2 (PROVISIONAL)	m³	12.00		
9.3	8.2.3	CONCRETE BEDDING CRADLE:				
9.3.1	8.2.3	CLASS 25 MPA/19 MM	m³	1.00		
9.4	8.2.4	ENCASING OF PIPES IN CONCRETE:				
9.4.1	8.2.4	CLASS 25 MPA/19 MM	m³	5.00		
10	SANS 1200 LC	CABLE DUCTS (SLEEVES)				
10.1	8.2.4	REINSTATE ROAD SURFACE COMPLETE WITH ALL COURSES (PROVISIONAL)	m	4.50		
10.2	8.2.5	SUPPLY, LAY, BED AND PROVE DUCT:				
10.2.1	8.2.5	NEXTUBE PIPES OR SIMILAR APPROVED EQUIVALENT:				
10.2.1.1	8.2.5	160 MM DIA (PROVISIONAL)	m	5.00		
10.2.2	8.2.5	UPVC				
10.2.2.1	8.2.5	110 MM DIA	m	22.00		
10.2.2.2	8.2.5	75 MM DIA	m	36.00		
10.3	8.2.6	IMPORTED BEDDING MATERIAL				
10.3.1	8.2.6	RIVER SAND FOR BEDDING AS PER SANS 1200 LC CLAUSE 3.2	m³	8.70		
10.4	8.2.7	DRAW PITS / MANHOLES				
10.4.1	8.2.7	HEAVY DUTY DRAW BOX AS PER DRW PYP1847-E-SEC1-CI-DX-045 REV 2.0	No	2.00		
10.4.2	8.2.7	CATCHPIT AS PER DRW PYP1847-E-SEC1-CI-DX-024 REV 2.0	No	2.00		
10.5	8.2.8	CABLE MARKERS:				
10.5.1	8.2.8.A	ROUTE MARKERS (PROVISIONAL)	No	10.00		
11	SANS 1200 MK	KERBING AND CHANNELLING				
11.1	8.2.3	CAST-IN-SITU BOX CHANNEL, COMPLETE WITH SEATING ANGLES AND MENTIS RECTAGRID RS40 COVER, AS PER DRAWING NUMBER 109842-5000-DRG-CC-0405:				
11.1.1	8.2.3	250 MM WIDTH	m	80.00		
11.1.2	8.2.3	350 MM WIDTH (PROVISIONAL)	m	10.00		
11.2	8.2.6	ANCILLARIES				
11.2.1	8.2.6.1	INLET, OUTLET, TRANSITION, AND SIMILAR STRUCTURES				
11.2.1.1	8.2.6.1	STORMWATER INLET	No	1.00		
11.2.1.2	8.2.6.1	STORMWATER TIE-IN TO EXISTING	No	2.00		
12	PD	<u>BUILDING WORK</u>				
12.1	PD.01	DOORS AND WINDOWS:				
12.1.1	PD.01.1	PUMP STATION DOOR:				
12.1.1.1	PD.01.1.1	SINGLE LEAF STEEL DOOR INCLUDING STEEL FRAME 2032 MM X 762 MM	No.	1.00		
12.1.1.2	PD.01.1.2	2600 X 4000 MM HAND OPERATED ROLLER SHUTTER DOOR WITH SOLID AND PERFORATED CLOSING COMBINATION. WITH WEATHERSTRIP. FINISH POWDER COATED GALVANISED ROLLER SHUTTER DOOR WITH COLOUR TRAFFIC GREEN	No.	2.00		
12.1.2	PD.01.2	WINDOWS:				
12.1.2.1	PD.01.2.1	GLASS PANED WINDOW WITH STEEL FRAME 1220 X 1200 MM	No	6.00		
12.1.2.2	PD.01.2.2	1000 X 1500 MM ALUMINIUM LOUVRES	No	10.00		
12.2	PD.02	MISCELLANEOUS ITEMS:				
12.2.1	PD.02.1	ITEMS MEASURE BY AREA:				
12.2.1.1	PD.02.1.1	ANT POISON, ALDRIN EMULSIFIABLE CONCENTRATES SOLUTION TO SABS 618 SPREAD AT A RATE RECOMMENDED BY THE MANUFACTURER:				
12.2.1.1.1	PD.02.1.1	IN BOTTOM OF STRIP FOOTINGS	m²	100.00		

TRANSNET PIPELINES

TENDER NO.

AUTOMATIC FOAM FIRE PROTECTION SYSTEM FOR TRANSNET'S CAPACITY PLAN UPGRADE AT
TRANSNET'S SECUNDA DEPOT, MPUMALANGA PROVINCE, SOUTH AFRICA

SCHEDULE OF QUANTITIES

NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK

SCHEDULE: ELECTRICAL, CONTROL & INSTRUMENTATION

2.3 E C & I		PROJECT: SECUNDA DEPOT TELE-MECHANICAL PHASE 2 UPGRADE	UNIT	QTY	RATE	AMOUNT
ITEM	PAYMENT	DESCRIPTION				
		WIREWAYS, FLOOR DUCTING AND POWER SKIRTING				
		AS SPECIFIED IN THE PROJECT SPECIFICATION AND THE DETAIL SPECIFICATION				
1.	DS 19.10.1	SUPPLY AND DELIVERY OF CONDUIT				
1.1	DS 19.10.1	25 MM GALVANISED	m	180		
2.	DS 19.10.2	INSTALLING OF CONDUIT				
2.1	DS 19.10.2	25 MM GALVANISED	m	180		
3.	DS 19.10.3	TERMINATE CONDUIT				
3.1	DS 19.10.3	25 MM GALVANISED	No	30		
		POWER OUTLETS				
		AS SPECIFIED IN THE PROJECT SPECIFICATION AND IN THE DETAIL SPECIFICATION				
4	DS 19.11.1	SUPPLY SWITCHED SOCKET OUTLETS				
4.1	DS 19.11.1	16A , 230VAC SINGLE PHASE SWITCHED SOCKET OUTLET	No	3		
4.2	DS 19.11.1	32A, 400VAC THREE PHASE SWITCHED SOCKET OUTLET	No	2		
5	DS 19.11.2	INSTALL SOCKET OUTLETS				
5.1	DS 19.11.2	16A , 230VAC SINGLE PHASE SWITCHED SOCKET OUTLET	No	2		
5.2	DS 19.11.2	32A, 400VAC THREE PHASE SWITCHED SOCKET OUTLET	No	2		
6	DS 19.11.3	SUPPLY CABLE BOXES				
6.1	DS 19.11.3	3 WAY JUNCTION BOX	No	25		
7	DS 19.11.4	INSTALL CABLE BOXES				
7.1	DS 19.11.4	3 WAY JUNCTION BOX	No	25		
		LIGHTING INSTALLATION				
		AS SPECIFIED IN THE PROJECT SPECIFICATION AND IN THE DETAIL SPECIFICATION				
8		SUPPLY AND DELIVER LIGHT FITTINGS				
		1200MM INDUSTRIAL LINEAR LED LUMINAIRE OR SIMILAR APPROVED EQUIVALENT HOUSING: HIGH-IMPACT POLYCARBONATE PROTECTOR: HIGH-IMPACT POLYCARBONATE FINISH: TELEGREY 1 (RAL 7045) TIGHTNESS LEVEL: IP 65	No	8		
8.1		INDUSTRIAL LED BULKHEAD LIGHT HOUSING: MARINE GRADE HIGH-PRESSURE DIE-CAST ALUMINIUM (EN 1706 AC-44300) PROTECTOR:HIGH-IMPACT POLYCARBONATE FINISH: BLACK - RAL9017 TEXTURED FINISH (STANDARD) TIGHTNESS LEVEL: IP 65	No	1		
8.2		LED FLOODLIGHTING OPTIC: PMMA HOUSING: MARINE GRADE HIGH-PRESSURE DIE-CAST ALUMINIUM (EN 1706 AC-44300) PROTECTOR: TEMPERED GLASS FINISH: UNPAINTED ALUMINIUM TIGHTNESS LEVEL: IP 66	No	8		
8.3						
9		INSTALL LIGHT FITTINGS COMPLETE WITH CABLING, LIGHT SWITCHES, LIGHTING CONTROL SYSTEMS TO PROVIDE A FULL OPERATIONAL LIGHTING SYSTEM				
		1200MM INDUSTRIAL LED LUMINAIRE HOUSING: HIGH-IMPACT POLYCARBONATE PROTECTOR:HIGH-IMPACT POLYCARBONATE FINISH: TELEGREY 1 (RAL 7045) TIGHTNESS LEVEL: IP 65	No	8		
9.1						
		INDUSTRIAL LED BULKHEAD LIGHT HOUSING: MARINE GRADE HIGH-PRESSURE DIE-CAST ALUMINIUM (EN 1706 AC-44300) PROTECTOR:HIGH-IMPACT POLYCARBONATE FINISH: BLACK - RAL9017 TEXTURED FINISH (STANDARD) TIGHTNESS LEVEL: IP 65	No	1		
9.2						
		LED FLOODLIGHTING OPTIC: PMMA HOUSING: MARINE GRADE HIGH-PRESSURE DIE-CAST ALUMINIUM (EN 1706 AC-44300) PROTECTOR: TEMPERED GLASS FINISH: UNPAINTED ALUMINIUM TIGHTNESS LEVEL: IP 66	No	8		
9.3						

10		SUPPLY AND DELIVER SWITCHES				
10.1		UNI-DIRECTIONAL DOUBLE LEVER LIGHT SWITCH	No	2		
11		INSTALL SWITCHES				
11.1		UNI-DIRECTIONAL DOUBLE LEVER LIGHT SWITCH	No	2		
11.2		SUPPLY AND DELIVER PHOTO-ELECTRIC LIGHTING CONTROL SYSTEM COMPLETE WITH CONTACTOR AND BYPASS SWITCH	No	1		
12		OUTDOOR LIGHTING FIRE PUMP STATION AND WATER STORAGE TANK (EXCLUDED)				
13	DS 19.9.2	INSTALLATION, TESTING AND COMMISSIONING OF LIGHTING SYSTEMS				
13.1	DS 19.9.2	INDOOR LIGHTING FIRE PUMP STATION	Lump Sum	1		
13.2	DS 19.9.2	OUTDOOR LIGHTING FIRE PUMP STATION AND WATER STORAGE TANK (EXCLUDED)				
		<u>LOW VOLTAGE AND INSTRUMENTATION CABLE SUPPLY</u>				
		AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
14	DS 19.3.1	SUPPLY AND DELIVERY OF POWER CABLE				
14.1	DS 19.3.1	3-CORE:				
14.1.1	DS 19.3.1	2.5 MM², 3-CORE SWA	m	830		
14.1.2	DS 19.3.1	4 MM², 3-CORE SWA	m	100		
14.2	DS 19.3.1	4 CORE				
14.2.1	DS 19.3.1	2.5 MM², 4-CORE SWA	m	50		
14.2.2	DS 19.3.1	4 MM², 4-CORE SWA	m	300		
14.2.3	DS 19.3.1	25 MM², 4-CORE SWA	m	250		
14.2.4	DS 19.3.1	35 MM², 4-CORE SWA	m	150		
14.3	DS 19.3.1	7-CORE:				
14.3.1	DS 19.3.1	2.5 MM², 7-CORE SWA	m	150		
15	DS 19.3.1	SUPPLY AND DELIVERY OF INSTRUMENTATION CABLE				
15.1	DS 19.3.1	1-PR				
15.1.1	DS 19.3.1	1.5 MM², SWA	m	340		
15.1.2	DS 19.3.1	1.5 MM², 7-CORE APL	m	25		
15.1.3	DS 19.3.1	2.5 MM², 7-CORE SWA	m	600		
15.2	DS 19.3.1	1 PAIR:				
15.2.1	DS 19.3.1	1.5 MM², 1 PAIR SWA	m	450		
15.3	DS 19.3.1	8 PAIR:				
15.3.1	DS 19.3.1	1.5 MM², 8 PAIR SWA	m	400		
16	DS 19.3.1	SUPPLY EARTH CONTINUITY CONDUCTOR				
16.1	DS 19.3.1	70 MM², ICEW	m	100		
16.2	DS 19.3.1	25 MM², ICEW	m	150		
16.3	DS 19.3.1	16 MM², ICEW	m	250		
16.4	DS 19.3.1	10 MM², ICEW	m	100		
16.5	DS 19.3.1	4 MM², ICEW	m	400		
16.6	DS 19.3.1	2.5 MM², ICEW	m	550		
17	DS 19.3.1	SUPPLY OF ELECTRICAL CABLE TERMINATION KITS				
17.1	DS 19.3.1	3C 2.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	20		
17.2	DS 19.3.1	4C 2.5MM2 PVC SWA PVC (LH)	No	8		
17.3	DS 19.3.1	4C 25MM2 PVC SWA PVC (LH)	No	10		
17.4	DS 19.3.1	4C 35MM2 PVC SWA PVC (LH)	No	3		
17.5	DS 19.3.1	4C 4MM2 PVC IS/OS PVC SWA PVC (LH)	No	3		
17.6	DS 19.3.1	4C 4MM2 PVC SWA PVC (LH)	No	3		
17.7	DS 19.3.1	7C 2.5MM2 PVC SWA PVC (LH)	No	8		
18	DS 19.3.1	SUPPLY OF ELECTRICAL CABLE TERMINATION KITS				
18.1	DS 19.3.1	1C 2.5MM2 PVC SWA PVC (LH)	No	10		
18.2	DS 19.3.1	1PR 1.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	35		
18.3	DS 19.3.1	8PR 1.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	10		
	DS 19.3.1	NOTE: PRICING AND COST ESTIMATION FOR ALL CABLE TERMINATION KITS AND GLANDS SHALL BE THE FINAL RESPONSIBILITY OF THE CONTRACTOR AND OPTIONAL EXTRA KITS SHALL BE INCLUDED AS PART OF THE FIXED P&GS. PLEASE REFER TO THE CABLE SCHEDULE (PYP1847-E-SEC1-EL-CS-001 / 21035-TPL-EE-CS-001) TO ACCOUNT FOR ALL CABLE TERMINATION KITS AND GLANDS.				
	DS 19.3.1	<u>LOW VOLTAGE AND INSTRUMENTATION CABLE SUPPLY</u>				
	DS 19.3.1	AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
19	DS 19.3.1	INSTALL, TERMINATE AND COMPLETE POWER CABLE INSTALLATION				

19.1	DS 19.3.1	3-CORE:				
19.1.1	DS 19.3.1	2.5 MM², 3-CORE SWA	m	650		
19.1.2	DS 19.3.1	4 MM², 3-CORE SWA	m	100		
19.2	DS 19.3.1	4 CORE				
19.2.1	DS 19.3.1	2.5 MM², 4-CORE SWA	m	50		
19.2.2	DS 19.3.1	4 MM², 4-CORE SWA	m	300		
19.2.3	DS 19.3.1	25 MM², 4-CORE SWA	m	250		
19.2.4	DS 19.3.1	35 MM², 4-CORE SWA	m	150		
19.3	DS 19.3.1	7-CORE:				
19.3.1	DS 19.3.1	2.5 MM², 7-CORE SWA	m	150		
20	DS 19.3.1	INSTALL, TERMINATE AND COMPLETE INSTRUMENT CABLE INSTALLATION				
20.1	DS 19.3.1	1-PR				
20.1.1	DS 19.3.1	1.5 MM², SWA	m	340		
20.1.2	DS 19.3.1	1.5 MM², 7-CORE APL	m	25		
20.1.3	DS 19.3.1	2,5 MM², 7-CORE SWA	m	600		
20.2	DS 19.3.1	1 PAIR:				
20.2.1	DS 19.3.1	1.5 MM², 1 PAIR SWA	m	450		
20.3	DS 19.3.1	8 PAIR:				
20.3.1	DS 19.3.1	1.0 MM², 8 PAIR SWA	m	400		
20.4	DS 19.3.1	16 PAIR:				
20.4.1	DS 19.3.1	1.0 MM², 16 PAIR SWA	m	250		
21	DS 19.3.1	INSTALL, TERMINATE AND COMPLETE EARTH CABLE INSTALLATION				
21.1	DS 19.3.1	70 MM², ICEW	m	100		
21.2	DS 19.3.1	25 MM², ICEW	m	150		
21.3	DS 19.3.1	16 MM², ICEW	m	250		
21.4	DS 19.3.1	10 MM², ICEW	m	100		
21.5	DS 19.3.1	4 MM², ICEW	m	400		
21.6	DS 19.3.1	2,5 MM², ICEW	m	550		
22	DS 19.3.1	INSTALL ELECTRICAL CABLE TERMINATION KITS				
22.1	DS 19.3.1	3C 2.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	20		
22.2	DS 19.3.1	4C 2.5MM2 PVC SWA PVC (LH)	No	8		
22.3	DS 19.3.1	4C 25MM2 PVC SWA PVC (LH)	No	10		
22.4	DS 19.3.1	4C 35MM2 PVC SWA PVC (LH)	No	3		
22.5	DS 19.3.1	4C 4MM2 PVC IS/OS PVC SWA PVC (LH)	No	3		
22.6	DS 19.3.1	4C 4MM2 PVC SWA PVC (LH)	No	3		
22.7	DS 19.3.1	7C 2.5MM2 PVC SWA PVC (LH)	No	8		
23	DS 19.3.1	INSTALL ELECTRICAL CABLE TERMINATION KITS				
23.1	DS 19.3.1	1C 2.5MM2 PVC SWA PVC (LH)	No	10		
23.2	DS 19.3.1	1PR 1.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	35		
23.3	DS 19.3.1	8PR 1.5MM2 PVC IS/OS PVC SWA PVC (LH)	No	10		
		NOTE: COST ESTIMATION FOR THE INSTALLATION OF ALL CABLE TERMINATION KITS AND GLANDS SHALL BE THE FINAL RESPONSIBILITY OF THE CONTRACTOR AND OPTIONAL EXTRA KITS SHALL BE INCLUDED AS PART OF THE FIXED P&GS.				
		<u>CABLE SLEEVES</u>				
	DS 19.3.1	AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
24	DS 19.6.1	SUPPLY AND INSTALL CABLE SLEEVES				
24.1	DS 19.6.1	75 MMØ PVC SLEEVE	m	70		
24.2	DS 19.6.1	110 MMØ PVC SLEEVE	m	30		
24.3	DS 19.6.1	75 MMØ PVC SLEEVE 90 DEGREE BEND	No	30		
24.4	DS 19.6.1	110 MMØ PVC SLEEVE 90 DEGREE BEND	No	15		
	DS 19.5.1	<u>CABLE LADDER RACKS</u>				
	DS 19.5.1	AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
25	DS 19.5.1	SUPPLY AND DELIVER CABLE LADDER				
25.1	DS 19.5.1	200 MM:				
25.1.1	DS 19.5.1	200 MM STRAIGHT SECTION (3M LENGTH)	m	110		
25.1.2	DS 19.5.1	200 MM INTERNAL BEND (VERTICAL)	No	10		
25.1.3	DS 19.5.1	200 MM OUTSIDE BEND (VERTICAL)	No	5		

25.1.4	DS 19.5.1	200 MM HORIZONTAL BEND	No	10		
25.1.5	DS 19.5.1	200 MM HORIZONTAL TEE	No	12		
25.2	DS 19.5.1	75MM:				
25.2.1	DS 19.5.1	75 MM STRAIGHT SECTION (3M LENGTH)	m	10		
25.2.2	DS 19.5.1	75 MM OUTSIDE BEND (VERTICAL)	No	5		
26	DS 19.5.2.	INSTALL CABLE LADDER				
26.1	DS 19.5.2.	200 MM:				
26.1.1	DS 19.5.2.	200 MM STRAIGHT SECTION (3M LENGTH)	m	110		
26.1.2	DS 19.5.2.	200 MM INTERNAL BEND (VERTICAL)	No	10		
26.1.3	DS 19.5.2.	200 MM OUTSIDE BEND (VERTICAL)	No	5		
26.1.4	DS 19.5.2.	200 MM HORIZONTAL BEND	No	10		
26.1.5	DS 19.5.2.	200 MM HORIZONTAL TEE	No	12		
27	DS 19.5.2.	75MM:				
27.1.1	DS 19.5.2.	75 MM STRAIGHT SECTION (3M LENGTH)	m	10		
27.1.2	DS 19.5.2.	75 MM OUTSIDE BEND (VERTICAL)	No	5		
	DS 19.5.2.	<u>DISTRIBUTION BOARDS</u>				
	DS 19.5.2.	AS SPECIFIED IN PL 631 AND IN THE DETAIL SPECIFICATION				
28	DS 19.5.2.	SUPPLY AND DELIVER DISTRIBUTION BOARD (GA/SHOP DRAWINGS TO BE GENERATED BY CONTRACTOR)				
28.1	DS 19.1.4	31DB30 - FIRE PUMP HOUSE ESSENTIAL DB REFER TO THE SINGLE LINE DIAGRAM (21035-TPL-EE-SLD-001)	No	1		
28.2	DS 19.1.7	31LV02 - FIRE PUMP HOUSE MCC REFER TO THE GENERAL ARRANGEMENT (21035-TPL-EE-DGA-003)	No	1		
29		INSTALL DISTRIBUTION BOARDS (GA/SHOP DRAWINGS TO BE GENERATED BY CONTRACTOR)				
29.1	DS 19.1.5	31DB30 - FIRE PUMP HOUSE ESSENTIAL DB REFER TO THE SINGLE LINE DIAGRAM (21035-TPL-EE-SLD-001)	No	1		
29.2	DS 19.1.8	31LV02 - FIRE PUMP HOUSE MCC REFER TO THE GENERAL ARRANGEMENT (21035-TPL-EE-DGA-003)	No	1		
30		PANEL HARDWARE FAT AND TEST REPORT				
30.1	DS 19.1.6	31DB30 - FIRE PUMP HOUSE ESSENTIAL DB REFER TO THE SINGLE LINE DIAGRAM (21035-TPL-EE-SLD-001)	No	1		
30.2	DS 19.1.9	31LV02 - FIRE PUMP HOUSE MCC REFER TO THE GENERAL ARRANGEMENT (21035-TPL-EE-DGA-003)	No	1		
31		COMMISSIONING (COC MEASURED ELSEWHERE) (GA/SHOP DRAWINGS TO BE GENERATED BY CONTRACTOR)				
31.1	DS 19.1.6	31DB30 - FIRE PUMP HOUSE ESSENTIAL DB REFER TO THE SINGLE LINE DIAGRAM (21035-TPL-EE-SLD-001)	No	1		
31.2	DS 19.1.9	31LV02 - FIRE PUMP HOUSE MCC REFER TO THE GENERAL ARRANGEMENT (21035-TPL-EE-DGA-003)	No	1		
		<u>FIRE CONTROL PANELS</u>				
		AS SPECIFIED IN THE DETAIL SPECIFICATION				
32	DS 19.1.1	SUPPLY AND DELIVER FIRE CONTROL PANELS				
32.1	DS 19.1.1	31-FH01 FIRE CONTROL PANEL & FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-001	No	1		
32.2	DS 19.1.1	31-FH02 SECURITY KIOSK FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-002	No	1		
32.3	DS 19.1.1	31-FH03 MAIN CONTROL ROOM FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-002	No	1		
32.4	DS 19.1.1	31-FH04 FCP BATTERY BACKUP PANEL	No	1		
33	DS 19.1.2	INSTALL FIRE CONTROL PANELS				
33.1	DS 19.1.2	31-FH01 FIRE CONTROL PANEL & FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-001	No	1		
33.2	DS 19.1.2	31-FH02 SECURITY KIOSK FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-002	No	1		
33.3	DS 19.1.2	31-FH03 MAIN CONTROL ROOM FIRST RESPONDER PANEL REFER TO THE GENERAL ARRANGEMENT 21035-TPL-IC-DGA-002	No	1		
33.4	DS 19.1.2	31-FH04 FCP BATTERY BACKUP PANEL	No	1		
34	DS 19.1.3	COMMISSIONING OF THE FIRE CONTROL AND REMOTE PANELS	SUM	1		
35	DS 19.1.10	DECOMMISSION AND REMOVE EXISTING FIRE CONTROL PANEL FROM SITE	SUM	1		
		<u>INSTRUMENTATION</u>				
	DS 19.2.1	AS SPECIFIED IN THE DETAIL SPECIFICATION				
36	DS 19.2.1	SUPPLY AND DELIVERY OF LEVEL SWITCHES	No	4		
37	DS 19.2.5	INSTALL LEVEL SWITCHES	No	4		
38	DS 19.2.7	COMMISSION LEVEL SWITCHES	No	4		
39	DS 19.2.2	SUPPLY AND DELIVERY OF PRESSURE GAUGES	No	9		
40	DS 19.2.5	INSTALL PRESSURE GAUGES	No	9		
41	DS 19.2.7	COMMISSION PRESSURE GAUGES	No	9		
42	DS 19.2.3	SUPPLY AND DELIVERY OF FLOW METERS	No	1		
43	DS 19.2.5	INSTALL FLOW METERS	No	1		

44	DS 19.2.7	COMMISSION FLOW METERS	No	1		
45	DS 19.2.4	SUPPLY AND DELIVERY OF FIRE ALARM SIRENS	No	1		
46	DS 19.2.5	INSTALL FIRE ALARM SIRENS	No	1		
47	DS 19.2.7	COMMISSION FIRE ALARM SIRENS	No	1		
48	DS 19.2.8	SUPPLY AND DELIVERY OF PRESSURE SWITCHES	No	2		
49	DS 19.2.5	INSTALL PRESSURE SWITCHES	No	2		
50	DS 19.2.7	COMMISSION PRESSURE SWITCHES	No	2		
51	DS 19.2.4	SUPPLY AND DELIVERY OF FIRE ALARM BEACONS	No	3		
52	DS 19.2.5	INSTALL FIRE ALARM BEACONS	No	3		
53	DS 19.2.7	COMMISSION FIRE ALARM BEACONS	No	3		
		<u>CABLE DRAW BOXES</u>				
		AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
54	DS 19.7.1	SUPPLY DELIVER AND INSTALL DRAW BOXES				
54.1	DS 19.7.1	HEAVY DUTY DRAW BOXES	No	2		
		<u>SPECIFICATION</u>				
		AS SPECIFIED IN THE DETAIL SPECIFICATION				
55	DS 19.8.1	SUPPLY AND DELIVERY OF ENCLOSURES				
55.1	DS 19.8.1	3 WAY JUNCTION BOX	No	15		
56	DS 19.8.2	INSTALL ENCLOSURES				
56.1	DS 19.8.2	3 WAY JUNCTION BOX	No	15		
		<u>EARTHING AND LIGHTNING PROTECTION</u>				
		AS SPECIFIED IN PL 727 AND IN THE DETAIL SPECIFICATION				
57		EARTH TESTS				
57.1		EARTH RESISTIVITY TEST (PROVISIONAL)	No	1		
57.2		EARTH-RESISTANCE TEST	No	1		
58		SUPPLY AND INSTALL EARTHING AND LIGHTNING PROTECTION (IF REQUIRED)				
58.1		NEW/REFURBISHED FIRE WATER RESERVOIR (PROVISIONAL)	Sum	1		
58.2		NEW FIRE WATER PUMP STATION (PROVISIONAL)	Sum	1		
58.3		TEST, CONFIRM AND REFURBISH/REINSTATE THE EARTHING ARRANGEMENT	Sum	1		
CARRIED TO FINAL SUMMARY PAGE OF SCHEDULE OF QUANTITIES						
						PAGE

TRANSNET PIPELINES

TENDER NO.

AUTOMATIC FOAM FIRE PROTECTION SYSTEM FOR TRANSNET'S CAPACITY PLAN UPGRADE AT
TRANSNET'S SECUNDA DEPOT, MPUMALANGA PROVINCE, SOUTH AFRICA

SCHEDULE OF QUANTITIES

NB: TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK

SCHEDULE: TESTING & COMMISSIONING

3.1 TESTING & COMMISSIONING		PROJECT: SECUNDA DEPOT TELE-MECHANICAL PHASE 2 UPGRADE	UNIT	QUANTITY	RATE	AMOUNT
ITEM	PAYMENT	DESCRIPTION				
		ALL ADDITIONAL TOOLS AND SOFTWARE REQUIRED FOR THE INSTALLATION AND COMMISSIONING SCOPE SHOULD BE ADDED AND PRICED ACCORDINGLY IN THIS SHEET. ANY ADDITIONAL TOOLS AND SOFTWARE NOT INCLUDED AND PRICED WILL NOT BE ENTERTAINED DURING THE EXECUTION PHASE, ALL ITEMS NOT INCLUDED AND PRICED BY THE SUPPLIER ARE DEEMED TO BE INCLUDED ELSEWHERE.				
		<u>COMMISSIONING AND SPECIAL TOOLS</u>				
1.		FIRE PROTECTION SYSTEM				
1.1.		FIRE PUMPS TESTING	SUM	1		
1.1.1		HYDROSTATIC PRESSURE TESTING	SUM	1		
1.1.2		PERFORMANCE TESTING	SUM	1		
2		ELECTRICAL AND CONTROL SYSTEMS				
2.1		CONTROL PANELS TESTING	SUM	1		
2.2		ELECTRICAL AND INSTRUMENTATION CABLE TESTING	SUM	1		
3		FOAM PROPORTIONING SYSTEM TESTING				
3.1		OPERATIONAL TESTING	SUM	1		
3.2		CALIBRATION TESTING	SUM	1		
4		FIREWATER AND FOAM DISCHARGE TESTING				
4.1		OSCILLATING MONITOR TESTING	SUM	1		
4.2		DELUGE SYSTEM TESTING	SUM	1		
5		SAFETY SYSTEMS COMMISSIONING AND TESTING				
5.1		FUNCTIONAL TESTING	SUM	1		
5.2		FINAL COMMISSIONING REPORT	SUM	1		
6		CONSUMABLES				
6.1		FIRE PROTECTION SYSTEM	SUM	1		
6.1.1		FOAM CONCENTRATE	SUM	1		
6.1.2		GASKETS AND SEALS	SUM	1		
6.1.3		LUBRICANTS AND GREASE	SUM	1		
6.1.4		CLEANING SOLVENTS	SUM	1		
7		SPARES				
7.1		FIRE PROTECTION SYSTEM	SUM	1		
7.1.1		SPARE PUMPS PARTS	SUM	1		
7.1.2		SPARE VALVES	SUM	1		
7.1.3		SPARE NOZZLES FOR MONITORS	SUM	1		
7.1.4		SPARE GASKETS AND SEALS	SUM	1		
8		OTHERS				
8.1		DISPOSAL AND CARTING AWAY	SUM	1		

8.2	TEMPORARY CONNECTION TO EXISTING FIRE SYSTEM AND PHASING OF WORKS	SUM	PROV SUM	R 15,000.00
CARRIED TO FINAL SUMMARY PAGE OF SCHEDULE OF QUANTITIES				R 15,000.00
				PAGE