

C2.2 Bill of Quantities		
	FINAL SUMMARY	
	SECTION 1 (PRELIMINARIES & GENERAL)	AMOUNT
1	BILL NO.1: PRELIMINARIES & GENERAL	
SECTION 1 TOTAL		
	SECTION 2 (BUILDING WORKS)	AMOUNT
2	BILL NO.2: EARTHWORKS	
3	BILL NO.3: CONCRETE, FORMWORK AND REINFORCEMENT	
4	BILL NO.4: MASONRY	
5	BILL NO.5: WATERPROOF	
6	BILL NO.6: ROOF COVERINGS	
7	BILL NO.7: CAPENTRY AND JOINERY	
8	BILL NO.8: FLOOR COVERING	
9	BILL NO.9: IRONMONGERY	
10	BILL NO. 10: STRUCTURAL STEELWORK	
11	BILL NO.11: METALWORK	
12	BILL NO.12: PLASTERING	
13	BILL NO. 13: RAINWATER DISPOSAL	
14	BILL NO. 14: PAINTWORK	
15	BILL NO. 15: EXTERNAL WORKS	
16	BILL NO. 16: ELECTRICAL WORKS	
SECTION 2 TOTAL		
SUB-TOTAL 1		
	CIDB FEES	
	Allow the Sum of 0.2% of Sub total 1 for the CIDB BUILD Fee:	
SUB TOTAL 2 CARRIED TO FORM OF OFFER AND ACCEPTANCE		

Refers To	Item No.	Description	Unit	Quantity	Rate	Amount
SANS 1200A		<u>SECTION NO. 1 : PRELIMINARIES</u>				
		<u>BILL NO. 1</u>				
		<u>SCHEDULED ESTABLISHMENT, OVERHEADS & INCIDENTAL COSTS</u>				
		Preliminaries & General				
		PRICING INSTRUCTIONS TO TENDERS: The rates and prices for completing an item scheduled in this section for establishment, overheads and incidental costs include everything to cover the Contractor's direct costs, overheads, profit and expenses required for all risks, liabilities and obligations in terms of this contract.				
		All the items scheduled in this section must be priced. In the absence of a price against any item, no claim for additional costs or charges for provision of any of the duties, services, facilities or obligations required in respect of that item will be considered.				
	A 8.2.3	<u>FIXED CHARGE ITEMS</u>				
		<u>Contractual requirements</u>				
	A 8.3.1	Contractual requirements	sum	1		
	A 8.3.2 & A 8.3.2.3	<u>Establishment of Facilities on the Site</u>				
	A 8.3.2.1	<u>Facilities for Engineer</u>				
		a) Furnished Offices	sum	1		
		b) Nameboards	sum	1		
	A 8.3.2.2	<u>Facilities for Contractor</u>				
		a) Office and storage sheds	sum	1		
		d) Living accommodation	sum	1		
		e) Ablution and latrine facilities	sum	1		
		f) Tools and equipment	sum	1		
		g) Water supplies, electric power and communications	sum	1		
		i) Site access and access control	sum	1		
		j) Plant	sum	1		
		Site establishment to complete site facilities	sum	1		
	A 8.3.3	<u>Other Fixed-charge Obligations</u>				
		Setting out of works and surveys	sum	1		
		Preparation of As- built drawings	sum	1		
		Health and Safety Compliance	sum	1		
		Environmental Compliance	sum	1		
		Other fixed construction obligations as may deemed necessary by the contractor	sum	1		
		<u>Removal of site establishment</u>				
	A 8.3.4	Removal of site establishment on completion of the work	sum	1		
		<u>TIME RELATED ITEMS</u>				
		<u>Contractual requirements</u>				
	A 8.4.2.1	<u>Facilities for Engineer</u>				
		a) Furnished Offices	Month	12		
		c) Nameboards	Month	12		
		Total carried forward				

		Total brought forward				
A 8.4.2.2		<u>Facilities for Contractor</u>				
		a) Office and storage sheds	Month	12		
		d) Living accommodation	Month	12		
		e) Ablution and latrine facilities	Month	12		
		f) Tools and equipment	Month	12		
		g) Water supplies, electric power and communications	Month	12		
		j) Plant	Month	12		
		<u>Supervision for Duration of Construction</u>				
A 8.4.3		Supervision	Month	12		
		<u>Company and Head office Overhead Cost</u>				
A 8.4.4		Company and Head office Overhead Cost for the duration of the contract.	Month	12		
A 8.4.5		<u>Other Time-related Obligations</u>				
		Health and Safety Compliance	Month	12		
		Environmental Compliance	Month	12		
A 8.8		<u>TEMPORARY WORKS</u>				
A 8.8.2		Dealing with traffic (Accommodation of traffic)	Months	12		
A 8.8.3		Protection of existing structures until construction in vicinity is complete	Months	12		
A 8.8.4		<u>Existing services</u>				
		a) Supply or hire of specialist equipment for the detection of existing services.	Item	1		
		b) The use of equipment referred to in item (a) above.	Item	1		
		c) Excavation by hand in soft material to expose existing services.	item	1		
		d) Allow for temporary protection, as required in terms of the project specification of existing services.	Item	1		
		Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2: BUILDING WORK</u></p> <p><u>BILL NO. 2: EARTHWORKS (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is Referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>View site</u></p> <p>Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained</p> <p><u>General</u></p> <p><u>Carting away of excavated material</u></p> <p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site</p> <p><u>Nature of ground</u></p> <p>The nature of the ground is assumed to be gravel/Sandy, therefore "earth", but possibly interspersed with "soft rock" or "hard rock"</p> <p><u>Filling</u></p> <p>Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material</p> <p><u>Site clearance</u></p> <p>Site clearance work involves clearing waste or rubbish, unwanted surplus material or machinery or equipment on a site</p>				
1	<u>EXCAVATION</u>				
1,1	<u>Excavation in earth not exceeding 2m deep</u>				
1.1.1	In trench	m ³	373,3		
	Total carried forward				

	Total brought forward				
1,2	<u>Extra over excavations in earth for excavations in:</u>				
1.2.1	Soft Rock	m³	37,33		
1.2.2	Hard Rock	m³	56,00		
2	<u>Risk of collapse of excavations</u>				
2,1	Sides of trench not exceeding 1,5m deep	m²	1798,8		
3	<u>CARTING AWAY</u>				
3,1	Extra over all excavations for loading, carting and dumping surplus excavated material to a dumping site to be located by the contractor	m³	234		
4	<u>Keeping excavations free of water</u>				
4,1	Keeping excavations free of all water other than subterranean water	No.	25		
5	<u>FILLING ETC OTHER</u>				
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density</u>				
5,1	Backfilling to trenches, holes, etc	m³	87,00		
6	<u>Earth filling supplied by the contractor</u>				
6,1	G5 compacted to 95% MOD AASHTO density	m³	218		
6,2	Coarse river sand filling supplied by the contractor	m³	30		
7	<u>Compaction of surfaces</u>				
7,1	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m²	727,00		
8	<u>Prescribed density tests on filling</u>				
8,1	"Troxler Density" test from a SANS accredited soil test laboratory including a report indicating the MOD AASHTO of the clean sand backfill before casting surface bed slabs. Refer to drawings	no	4		
9	<u>SOIL POISONING</u>				
9,1	To bottoms and sides of trenches etc	m²	727,00		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.3: CONCRETE, FORMWORK AND REINFORCEMENT</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is Referred to the relevant Clauses in the separate document Model Preambles for Trades (2017 Edition) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Cost of tests</u></p> <p>The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SANS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Engineer. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Engineer (Test cubes are measured separately)</p> <p><u>Formwork</u></p> <p>Descriptions of formwork shall be deemed to include use and waste only (except where described as left in or permanent), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use</p> <p>Formwork to sides of bases, pile caps, ground beams, etc., have been measured provisionally and will only be paid for where it is specifically prescribed by the Project Manager for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in Earthworks</p> <p><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES:</u></p> <p><u>30MPa/10mm concrete</u></p> <p>1,1</p> <p>1.1.1 Surface blinding under footing</p> <p><u>REINFORCED CONCRETE CASTED AGAINST EXCAVATED SURFACES:</u></p> <p><u>30MPa/19mm concrete</u></p> <p>1,2</p> <p>1.2.1 Strip footings</p> <p>1.2.2 Bases in foundations (Provisional)</p> <p>1.2.3 Stub columns in foundations (Provisional)</p> <p>1.2.4 200mm Concrete plinth</p> <p>1,3</p> <p><u>30MPa/20mm concrete</u></p> <p>1.3.1 Concrete Ramps</p> <p>Total carried forward</p>				
		m³	16,94		
		m³	84,72		
		m³	11,06		
		m³	5,76		
		m³	4,88		
		m³	18,98		

	Total brought forward				
1,4	<u>30MPa/20mm concrete</u>				
1.4.1	Surface slab	m³	98,45		
1.4.2	Slab (For water tank)	m³	5,69		
1.4.3	Column	m³	21,07		
1.4.4	Slab including beams and inverted beams	m³	27,00		
2	<u>CONCRETE SUNDRIES</u> <u>Finishing top surfaces of concrete smooth Power float</u>				
2,1	Surface beds, slabs, etc	m²	727,00		
3	<u>TEST CUBES</u>				
3,1	Making and testing 150 x 150 x 150mm concrete strength test cubes (Provisional). One set of test cubes generally consists of one concrete test cube tested at 7 days and three cubes tested at 28 days. The cube results are to be forwarded to the engineer immediately after testing.	No	55		
4	<u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u>				
4,1	<u>Rough formwork to sides</u>				
4.1.1	Bases and footings in foundations (Provisional)	m²	36,23		
4.1.2	Strip footings in foundations (Provisional)	m²	201,94		
4.1.3	Rectangular stub columns not exceeding 3.5m high in foundations (Provisional)	m²	44,48		
4,2	<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u> <u>Smooth formwork to sides</u>				
4.2.1	Concrete plinth not exceeding 250mm thick	m²	7,2		
4.2.2	Slabs not exceeding 250mm thick propped off stepped surfaces exceeding 1.5m and not exceeding 3.5m high	m²	85		
4.2.3	Formwork to sides of column	m²	86,7		
4.2.4	Sides of ring beam	m²	190,95		
4.2.5	Underside of ring beam	m²	70,31		
4.2.6	Form work to sides of ramps	m²	6		
4.2.7	To sides of water tanks	m²	20		
5	<u>REINFORCEMENT (PROVISIONAL)</u> <u>Mild / High steel reinforcement to structural concrete work</u>				
5,1	Allow for all sizes of rebar	t	26,45		
	<u>Fabric reinforcement</u>				
5,2	Type 193 fabric reinforcement in concrete surface beds, slabs, etc	m²	558,75		
6	<u>MOVEMENT JOINTS ETC.</u>				
6,1	<u>Saw cut joints</u>				
6.1.1	20mm Deep saw-cut joint with 10 x 10mm sealing groove filled with polyurethane joint sealant	m	670		
6,2	<u>Isolation Joints</u>				
6.2.1	10 x 10mm wide isolation joint with jointex and sealed with polyurethane sealant	m	456		
7	<u>Expansion joints with 10mm softboard</u>				
7,1	Exceeding 300mm high	m	389		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.4: MASONRY</u></p> <p>For preambles see "Preambles for trades (2017 Edition)" and applicable Supplementary Preambles as specified in the Trades. The said Model and Supplementary Preambles apply to all work described in this document. Tenderers are therefore referred to these documents for the full meaning and intention of all descriptions and no claims of any kind whatsoever will be entertained in this regard.</p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Sizes in descriptions</u></p> <p>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</p> <p><u>Hollow walls etc</u></p> <p>Descriptions of hollow walls shall be deemed to include leaving weep holes at 690mm centre-to-centre at the bottom course of the external skin.</p> <p>Bricks shall be ordered timeously to obtain uniformity in size and colour</p>				
1	<u>FOUNDATIONS: (PROVISIONAL)</u>				
1.1	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>				
1.1.1	280mm Cavity wall with 25MPa mass concrete infill	m ²	364,5		
2	<u>SUPERSTRUCTURE:</u>				
2.1	<u>Brickwork of NFP (14 MPa nominal compressive strength) bricks in class II mortar</u>				
2.1.1	280mm Cavity walls of two half brick skins and 25MPa mass concrete infill	m ²	665,58		
3	<u>BRICKWORK SUNDRIES</u>				
3.1	<u>Airbricks</u>				
3.1.1	220 x 150 x 50mm Thick air brick (Colour TBC)	No	40		
4	<u>Cement mortar triangular fillet 50 mm wide and one course high in cavity wall to receive stepped damp proof course.</u>				
4.1	50mm Cement Triangular fillets.	m	140		
5	<u>Brickwork reinforcement</u>				
5.1	230mm wide reinforcement built in horizontally.	m	1760		
6	<u>Precast concrete copings etc.</u>				
6.1	<u>Concrete prestressed fabricated lintels including necessary temporary support</u>				
6.1.1	150 x 75mm Lintels in lengths	m	87		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.05: - WATERPROOFING</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Waterproofing</u></p> <p>Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs</p>				
1	<u>DAMPPROOFING OF WALLS AND FLOORS</u>				
1,1	<u>One layer of 250 micron heavy-duty, bright orange plastic sheeting for waterproofing and damp-proofing or equivalent waterproof sheeting sealed at laps with high-adhesion tapes</u>				
1.1.1	Under surface beds	m ²	727,00		
2	<u>One layer of Indexthene "self adhesive" damp proof course. Refer to the architects waterproofing specification</u>				
2,1	In walls	m ²	150		
3	<u>SEALING STRIPS AND JOINT SEALANTS, ETC</u>				
3,1	Prepare and apply Polyurethane joint sealant including backing chord.	m	120		
3,2	10mm sealant including backing cord horizontally between brickwork and concrete structure	m	76		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.6: ROOF COVERINGS</u></p> <p>PREAMBLES The Contractor is referred to the architects and engineers drawings and specifications</p> <p>Descriptions of all roof coverings are deemed to include for all straight cutting</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Note:</u></p> <p>Wherever a trade name for any product has been described in the Priced Document attention is drawn to the fact that any other product of equivalent quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders.</p> <p>If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for.</p> <p>Both sides fixed as per engineer's specifications all in accordance with manufacturer's recommendations.</p> <p><u>Flashings(Aluminium)</u></p> <p>The paint finish shall be epoxy primer of 4-6 microns with a top coat 'Classic oat Silicone Polyester' of at least 22 microns and a half coat 'Classic oat Grey' to the reverse side (Colour to be approved by Architect)</p> <p>Flashing finish must match and be the same as the roof sheeting it follows. Flashing thickness must be the same or greater than that of the roof sheeting it follows, based on available thickness options.</p> <p><u>Guarantee</u></p> <p>The manufacturer shall comply with ISO9002 Quality Management System. Sheeting shall be laid in strict accordance with the manufacturer's specifications by an approved contractor.</p> <p><u>Erection, handling and storage</u></p> <p>Every precaution shall be taken to prevent damage to roof sheets during all stages of construction. Duck boards should be used when necessary to protect the sheeting from damage. Sheeting which has become deformed or damaged in any way, shall be replaced</p>				

	<p>The contractor shall exercise special care when handling long length sheeting, particularly in windy conditions. Should work be interrupted for any reason, all loose sheeting and incomplete sections must be adequately secured against possible movement by wind and gravity.</p> <p>The contractor shall ensure that all materials used on site for cladding, etc are transported, handled and stored in accordance with the manufacturer's recommendations. Material damaged shall be rejected and replaced with undamaged material at the contractor's expense. Repair of damaged material will not generally be permitted. Rates are to include for preventing damage and protecting sheets through all stages of construction.</p> <p><u>Cleaning, etc.</u></p> <p>All debris, swarf, etc. arising from the fixing of the cladding shall be removed from the sheeting as the fixing progresses. In addition, off-cuts of insulation, surplus fasteners and sealants, mandrels from pop rivets, off-cuts of flashings and sheeting, surplus flashing, food packaging, cartons, bottles, cans, etc shall not be left on the roof or in the gutters.</p> <p>Care shall be taken to ensure that no such material enters, blocks or partially impedes the flow of water into the outlets, down pipes, etc.</p>				
1,1	<u>RIBBED METAL SHEETING AND ACCESSORIES</u>				
1.1.1	Roof covering with pitch not exceeding 30 degrees	m²	1370,00		
1.1.2	Side cladding	m²	1317,00		
1,2	<u>Standard flashings to match the ribbed metal sheeting. All installed in accordance with the manufacturer's instructions.</u>				
1.2.1	Ridge cap	m	75,00		
1.2.2	Apex Flashing	m	88,00		
1.2.3	Barge Flashing	m	83,00		
1.2.4	Head Wall flashing	m	83,00		
1.2.5	Side Wall	m	130,00		
1.2.6	External corner	m	54,00		
1.2.7	Drip flashing approximately 231mm girth	m	255,00		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.7: CAPENTRY AND JOINERY</u></p> <p><u>PREAMBLES</u> The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Note:</u> All door leaf sizes to be verified on site</p> <p><u>Joinery:</u> Descriptions of frames shall be deemed to include frames, transoms, mullions, rails, etc Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete</p> <p><u>Decorative laminate finish:</u> Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent equivalent finish</p>				
1	<u>DOORS, ETC</u>				
1,1	<u>40mm Horizontal Solid Meranti Hardwood, suitable for painting. All as per Architect's specification</u>				
1.1.1	Single door size 930 x 2032mm high. Refer to the architects drawings (Door type D0)	No	7		
2	<u>FRAMED FRAMES, ETC</u>				
2,1	<u>Galvanized pressed steel</u>				
2.1.1	Single rebated frame plugged	No	7		
3	<u>SKIRTINGS, NOSINGS, ETC</u>				
3,1	<u>Wrought skirting</u>				
3.1.1	140 x 21mm timber skirting, plugged to walls	m	445		
4	<u>SHELVES</u>				
	<u>All Shelves must meet Industrial Strength requirements:</u>				
4,1	<u>Supply and Delivery:</u>				
	<u>Electrical store and Red tag area - Store:</u>				
4.1.1	4m Length x 1.5m width x 2m high Shelves with adjustable shelves height stored on the ground.	no	1		
	Total carried forward				

	Total brought forward				
4.1.2	4.5m Length x 0.5m width x 2m high Shelves with adjustable shelves height for Critical Spare List Shelf .	no	1		
4.1.3	2.5m Length x 0.5m width x 2m high Shelves with adjustable shelves height for Additional storage space.	no	2		
	<u>Material store:</u>				
4.1.4	7m Length x 1m width x 0.40m high Stored on shelves against the wall.	no	5		
4.1.5	3m Length x 1.5m width x 1.8m high three Shelves per Shelves with adjustable shelves height.	no	2		
	<u>Material Delivery store:</u>				
4.1.6	9.5m Length x 1m width x 0.6m high three Shelves per Shelves for Large heavier material.	no	1		
4.1.7	4m Length x 1m width x 0.6m high three Shelves per Shelves for Large heavier material.	no	1		
4.1.8	4m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for Small and/ or lighter material .	no	2		
4.1.9	4m Length x 1m width x 1.8m high Shelves with adjustable shelves height for Small and/ or lighter material .	no	1		
	<u>Portal frame store :</u>				
4.1.10	6m Length x 2m width x 0.6m high three Shelves per Shelves for Spare parts material.	no	1		
4.1.11	4.5m Length x 2m width x 0.6m high three Shelves per Shelves for Spare parts material.	no	1		
4.1.12	4.5m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for Spare parts material.	no	3		
	<u>General store :</u>				
4.1.13	3.5m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for general items.	no	1		
4.2	<u>Installation:</u>				
	<u>Electrical store and Red tag area - Store:</u>				
4.2.1	4m Length x 1.5m width x 2m high Shelves with adjustable shelves height stored on the ground.	no	1		
4.2.2	4.5m Length x 0.5m width x 2m high Shelves with adjustable shelves height for Critical Spare List Shelf .	no	1		
4.2.3	2.5m Length x 0.5m width x 2m high Shelves with adjustable shelves height for Additional storage space.	no	2		
	Total carried forward				

	Total brought forward				
	<u>Material store:</u>				
4.2.4	7m Length x 1m width x 0.40m high Stored on shelves against the wall.	no	5		
4.2.5	3m Length x 1.5m width x 1.8m high three Shelves per Shelves with adjustable shelves height.	no	2		
	<u>Material Delivery store:</u>				
4.2.6	9.5m Length x 1m width x 0.6m high three Shelves per Shelves for Large heavier material.	no	1		
4.2.7	4m Length x 1m width x 0.6m high three Shelves per Shelves for Large heavier material.	no	1		
4.2.8	4m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for Small and/ or lighter material .	no	2		
4.2.9	4m Length x 1m width x 1.8m high Shelves with adjustable shelves height for Small and/ or lighter material .	no	1		
	<u>Portal frame store :</u>				
4.2.10	6m Length x 2m width x 0.6m high three Shelves per Shelves for Spare parts material.	no	1		
4.2.11	4.5m Length x 2m width x 0.6m high three Shelves per Shelves for Spare parts material.	no	1		
4.2.12	4.5m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for Spare parts material.	no	3		
	<u>General store :</u>				
4.2.13	3.5m Length x 0.5m width x 1.8m high Shelves with adjustable shelves height for general items.	no	1		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.8: FLOOR COVERING</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is referred to the Model Preambles (2017), Floor coverings</p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>Fixing:</p> <p>Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc</p> <p>The screeded surface must be structurally sound, clean and dry and free from all surface laitance and contamination. New concrete or screeds must be at least 28 days old. Prime using a concentrated, solvent-free, synthetic resin primer designed to improve the bond between porous substrates and cement-based underlayments, adhesives, or toppings (as recommended by vinyl flooring specialist or equivalent.</p> <p>Adhesives used for the vinyl flooring must not have a TVOC content of more than 100 g/litre of product (for wood flooring and laminate adhesives).</p> <p><u>FLOOR COVERINGS</u></p> <p>1 <u>Timber floor covering</u></p> <p>1,1 On mezzanine floor</p> <p><u>Grano/Epoxy look flooring installed complete in accordance with the manufacturers instructions</u></p> <p>2</p> <p>2,1 On screeded floors</p> <p>3 <u>METAL DIVIDING STRIPS. ETC</u></p> <p>3,1 10mm high aluminium formable straight edge trim</p>				
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2 : BUILDING WORK</u></p> <p><u>BILL NO.9: IRONMONGERY</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is referred to the Model Preambles (2017), Floor coverings</p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Finishes to ironmongery</u></p> <p>Where applicable finishes to ironmongery are indicated by suffixes in accordance</p>				
1,1	<u>HINGES, BOLTS, ETC</u>				
1.1.1	Heavy duty galvanized steel hinges as supplied by with metal frames	Pairs	5		
1.1.2	Heavy duty silver colour solid stainless steel and aluminium	Pairs	2		
2	<u>LOCKS</u>				
	<u>SABS or equal industry approved</u>				
2.1.1	D036S cylinder sash lock	No	5		
2.1.2	DDC 10660 1 MK cylinder	No	2		
3	<u>ESCUTCHEONS AND PLATES</u>				
3,1	<u>SABS or equal industry approved</u>				
3.1.1	Escutcheon profile	Pair	7		
3.1.2	Kickplate profile	No	7		
3.1.3	Push plate profile	No	7		
4	<u>DOOR STOPS, DOOR CLOSERS, ETC.</u>				
4,1	<u>SABS or equal industry approved</u>				
4.1.1	Industrial quality	No	7		
5	<u>SIGNAGE</u>				
5,1	<u>Supply and install the following signage items complete.</u>				
5.1.1	Electric shock sign	No	1		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>SECTION NO 2 : BUILDING WORK</u>				
	<u>BILL NO 10: STRUCTURAL STEELWORK</u>				
	<u>PREAMBLES</u>				
	Descriptions of bolts shall be deemed to include nuts and washers.				
	Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.				
	Where anchor bolts are described as embedded in sides or soffits of concrete it shall be deemed to include holes through				
1	<u>STEEL COLUMNS AND BEAMS</u>				
1,1	IPE 100	t	0,1		
1,2	IPE 160	t	5,62		
1,3	L60X60X4	t	0,23		
1,4	LC75X50X20X2.0	t	0,46		
1,5	LC125X50X20X3.0	t	1,72		
1,6	IPE 200	t	1,81		
1,7	L60X60X6	t	0,23		
1,8	Circular Hollow Sections (Cold): CHS114.3X3.0	t	0,15		
1,9	Lipped Channels (Cold): LC175X75X20X3.0	t	0,68		
1,10	Lipped Channels (Cold): LC200X75X20X3.5	t	0,79		
1,11	Equal Angle: L50X50X6	t	0,6		
1,12	Equal Angle: L80X80X8	t	1,7		
1,13	UB-Universal Beams: UB254X146X37	t	3,1		
1,14	UC-Universal Columns: UC203X203X52	t	0,4		
1,15	Square Hollow Sections (Cold)-Column: SHS100X100X3.0	t	0,3		
1,16	Square Hollow Sections (Cold)-Column: SHS200X200X6.0	t	0,12		
1,17	UB-Universal Beams-Column: UB203X133X30	t	1,65		
2	<u>PLATES</u>				
2,1	Supply and install base plate, connecting plates, bolts, nuts and washers	sum	1		
3	<u>STAIR CASES</u>				
3,1	Supply, deliver and install staircase complete	sum	1		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	SECTION NO 2 : BUILDING WORK BILL NO.11 - METALWORK <u>PREAMBLES</u> The Contractor is referred to the Model Preambles (2017), Metalwork The Contractor is referred to the architects and engineers drawings and specifications <u>SUPPLEMENTARY PREAMBLES</u> Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres <u>STEEL HANDRAILS, BALUSTRADES, ETC.</u> 1,1 stainless steel balustrade pipe handrails. 2 <u>GATES</u> 2,1 Roll-up door size 4500x 2380mm with solid slatted aluminium-solid with powder coated 1.0mm thick for opening. To be operated by a motor and include emergency chain operation in the event of power failure. Key switches can be added if required.(RS-) 2,2 Custom made galvanized folding gate 75x50 rectangular tubing, clad with prepainted aluminium cladding match with roof, wall cladding and supplied with high quality slide latch with padlock holes and reversible handles as standard with back view of drop bar, lugs to be used to attach to gate post with heavy duty weld on bullet hinges fitting in the gate with drop bolts and barrel bolts 2,3 Roll-up door size 3000x 2380mm with solid slatted aluminium-solid with powder coated 1.0mm thick for opening. To be operated by a motor and include emergency chain operation in the event of power failure. Key switches can be added if required. 2,4 Custom made sliding gate 76x50x3mm square tube frames with prepainted aluminium cladding and supply the gate with wheel housing welded to frame, guide post, track, guide bracket, catch bracket, portal bracket, stopper bracket, security pin and the palisade fitting in the frame, locking mechanisms as well as brass and iron padlock for everyday	sum	1		
		No	7		
		No	1		
		No	1		
		No	4		
	Total carried forward				

	Total brought forward				
2,5	Custom made galvanized folding gate size 7500x2380 rectangular tubing, clad with prepainted aluminium cladding match with roof, wall cladding and supplied with high quality slide latch with padlock holes and reversible handles as standard with back view of drop bar, lugs to be used to attach to gate post with heavy duty weld on bullet hinges fitting in the gate with drop bolts and barrel bolts	No	1		
2,6	Roll-up door size 2500x 2380mm with solid slatted aluminium-solid with powder coated 1.0mm thick for opening. To be operated by a motor and include emergency chain operation in the event of power failure. Key switches can be added if required.(RS-material delivery store)	No	1		
2,7	Roll-up door size 4500x 4420mm with solid slatted aluminium-solid with powder coated 1.0mm thick for opening. To be operated by a motor and include emergency chain operation in the event of power failure. Key switches can be added if required.(RS-)	No	1		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2: BUILDING WORK</u></p> <p><u>BILL NO.12 PLASTERING</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is referred to the Model Preambles (2017), Plastering</p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Curing, seasoning and protection</u></p> <p>Protection shall be provided against too rapid drying whilst hardening by means of covering with wet sacks or other material. The screed shall also be protected from damage and discolouration during the progress of the remaining work.</p> <p><u>General</u></p> <p>Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary</p> <p>The contractor will be held solely liable for the protection of all windows and doors where projection plaster is rendered on the external facade.</p>				
1	<u>SCREEDS</u>				
	<u>3:1 Sand/Cement screeds wood floated, on concrete, including a synthetic resin polymer liquid used as a mortar and screed improver or equivalent cement mortar admixture to replace 1 third of the water component in the mix. Refer to the architects</u>				
1.1					
1.1.1	30mm Thick screed on floors and landings	m ²	652		
1.1.2	50mm Thick screed (average thickness) on concrete roofs to falls	m ²	75		
	<u>Apply 2 - 3mm "Floorworks" SLCP self levelling screed or similar approved to achieve a level, smooth and hard surface at acceptable moisture content to receive a vinyl finish</u>				
2					
2,1	On Floors	m ²	652		
3	<u>INTERNAL PLASTER</u>				
3,1	<u>Cement plaster on brickwork</u>				
3.1.1	On internal walls	m ²	797		
3.1.2	On narrow widths	m ²	30		
4	<u>EXTERNAL PLASTER</u>				
4,1	<u>Cement plaster on brickwork</u>				
4.1.1	On external walls	m ²	640		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO 2: BUILDING WORK</u></p> <p><u>BILL NO 13: RAINWATER DISPOSAL</u></p> <p><u>PREAMBLES</u></p> <p>The Contractor is referred to the Model Preambles (2017), Plumbing and Drainage</p> <p>The Contractor is referred to the architects and engineers drawings and specifications</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Flush pans</u></p> <p>Flush pans shall have straight or side outlets and "P" or S traps as necessary</p> <p><u>Stainless steel basins, sinks, wash troughs, urinals, etc</u></p> <p><u>Waste unions</u></p> <p>Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings</p>				
1	<p><u>RAINWATER DISPOSAL</u></p> <p><u>Square aluminium domestic OG type gutter, including all aluminium alloy fixing brackets, fixed as per approved patent and 50 x 75mm seamless type fluted aluminium downpipe including holderbats and accessories necessary for fixing gutters to steel roof structure and downpipes to brick, cladding or reinforced concrete walls, all in accordance with the manufacturers instructions. Gutters and downpipes to have a powder epoxy type finish</u></p>				
1,1					
1.1.1	Aluminium gutter	m	240		
1.1.2	110mm diameter rainwater downpipe	m	180		
1.1.3	Extra over gutter for outlet for 100mm diameter	No	20		
1.1.4	Extra over rainwater pipe for swan-neck	No	20		
1.1.5	Extra over rainwater pipe for shoe	No	20		
	Total carried forward to summary				

Item	Description	Unit	Quantity	Rate	Amount
	<u>SECTION NO 2: BUILDING WORK</u>				
	<u>BILL NO.14: PAINTWORK</u>				
1	<u>Prepare and apply plaster primer, 1 undercoat and 2 coats paint suitable for extreme weather conditions (or similar SABS approved)</u>				
1,1	On external plastered walls	m ²	640		
2	<u>Prepare and apply plaster primer, 1 undercoat and 2 coats high quality washable sheen paint as per manufacturer's specifications. Allow for deep colours to be selected.</u>				
2,1	On internal plastered walls	m ²	797		
3	<u>Prepare, prime and apply 1 undercoat and 2 coats of oil base enamel paint</u>				
3,1	On doors	m ²	28		
3,2	On door frames	m ²	5		
4	<u>Bitumen waterproofing paint</u>				
4,1	On internal skin walls.	m ²	407		
	Total carried forward to summary				

Item	Description	Unit	Quantity	Rate	Amount
	<u>SECTION NO 2: BUILDING WORK</u>				
	<u>BILL NO.15 - EXTERNAL WORKS</u>				
	<u>CIVILS:</u>				
	<u>SUPPLEMENTARY PREAMBLES</u>				
1	<u>Removal of existing paving</u>				
1,1	Ripping and removal of existing block pavers and related edge beams, kerbs and channels in the perimeter of the site.	m2	3273		
2	<u>Cable markers</u>				
2,1	Concrete Marker with engraved anodised aluminium ID plates. Cable Marker to be flush with Block Pavers	no	20		
3	<u>WATER TANKS</u>				
3,1	Supply, deliver and install 1900L water tanks	no	8		
4	<u>Carport</u>				
4,1	Design, supply and Install carport complete	sum	1		
5	<u>STORMWATER</u>				
5,1	Allow for Trenching and Bedding provision for stormwater 300dia concrete pipes (192m run)	Sum	1		
5,2	300dia Class 100D Concrete Pipes	m	192		
5,3	500dia Class 100D Concrete Pipes	m	1		
5.4	Class 100D Concrte Eccentric reducer coupling	no	1		
5.5	Allow for construction of stormwater Inlet Manholes and Grating complete	no	3		
5.6	Allow for construction of stormwater HD cover manholes	no	3		
5.7	HDPE flap non-return valve fitting	no	1		
5.8	Allow for V-drain complete. The V-drain Grade 35/19 concrete.180mm depth by 900mm wide, 165m long V-channel with mesh (minimum 4mm dia)	m	165		
5.9	Demolish the existing manhole	no	1		
6	<u>Paving</u>				
6,1	<u>Excavations</u>				
6.1.1	Excavate in earth material for paving	m3	1000		
6,2	<u>Caring away</u>				
6.2.1	Extra over all excavations for loading, carting and dumping surplus excavated material to a dumping site to be located by the contractor	m3	1000		
	Total carried forward				

	Total brought forward				
6,3	<u>Filling etc.</u>				
6.3.1	30mm Sand bedding (river sand)	m3	78,8		
6.3.2	150mm in Situ G6 (existing) compacted to 93% MOD AASHTO	m3	394		
6.3.3	200mm C3 (Cement stabilized locally sourced G5 graded crushed stone) compacted to 97% MOD AASHTO	m3	526		
6.3.4	Chemical Stabilizing Agent (Cement CEM II A-V 32.5 (2.5%))	t	15		
6,4	<u>Block paving</u>				
6.4.1	80mm S-A Block Paving	m2	2628		
7	<u>Kerbs</u>				
7,1	FIG.12 kerbs	m	224		
7,2	Concrete foundation	m3	5,38		
7,3	20mm mortar (3:1 sand cement)	m3	0,34		
7,4	Concrete wedge	m3	2,24		
8	<u>Road marking</u>				
8,1	Parking bay lines white paint (Code RM6, 100W)	m	120		
8.2	Disabled person bay white paint (Code RM17.3)	no	1		
	Total carried forward to summary				

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>SECTION NO 2: BUILDING WORK</u>				
	<u>BILL NO 16: ELECTRICAL WORKS</u>				
	Notes: This bill shall be read in conjunction with the technical specifications, drawings, works information and any other associated contract documentation to price for the provision of a complete installation, i.e. the design (where applicable), supply, installation, testing and commissioning.				
1	<u>Main Warehouse Facility</u>				
1,1	<u>Main Distribution Board</u>				
1.1.1	Modifications to existing 400A, 400V 36kV main distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 (supply, deliver and install 1 x 32 A and 5 x 16A circuit breakers).				
	i) Supply	No	6		
	ii) Install	No	6		
1.1.2	Termination of 2 X 2 core 16mm ² ECC and 4 x 2 core 6mm ² ECC low voltage cables onto existing Main Distribution board as drawing number XSDE0015-000-E-SL-0001-01-.1				
	i) Install	No	6		
1,2	<u>EXTERIOR LIGHTING</u>				
1.2.1	Decommissioning of 400W high pressure sodium light fittings per drawing number XSDE0015-000-E-LA-0002-01-.1 and handed over to TNPA.				
	i) Removal	No	7		
1.2.2	Supply, deliver and install 103W IP66 LED Floodlights and connect to existing lighting circuit.				
	i) Supply	No	8		
	ii) Install	No	8		
1.2.3	Supply, deliver and install 30W, LED Bulkheads as per drawing number XSDE0015-000-E-LA-0002-01-.1 and must be connected to existing lighting circuit (including cabling)., and the positions to be determined on-site.				
	i) Supply	No	4		
	ii) Install	No	4		
1,3	<u>Testing and Commissioning</u>				
1.3.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation).	sum	1		
1.3.2	Provision of any Certificate of Compliance Test Certificate for the electrical system.	sum	1		
	Total carried forward				

	Total brought forward				
2	<u>Electrical and Red Tag Store</u>				
2,1	<u>Sub distribution Board</u>				
2.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
	i) Supply	No	1		
	ii) Install	No	1		
2,2	<u>Light fittings</u>				
2.2.1	Supply, deliver and install, standard version 2x36W.				
	i) Supply	No	3		
	ii) Install	No	3		
2.2.2	Supply, deliver and install two way, one lever switch				
	i) Supply	No	2		
	ii) Install	No	2		
2,3	<u>Socket Outlets/Plugs</u>				
2.3.1	Supply, deliver and instal 16A single socket outlet.				
	i) Supply	No	1		
	ii) Install	No	1		
2.3.2	Supply, deliver and install 16A double socket outlet.				
	i) Supply	No	2		
	ii) Install	No	2		
2.3.2	Supply, deliver and install 5A unswitched socket				
	i) Supply	No	3		
	ii) Install	No	3		
2,4	<u>Low Voltage cables</u>				
2.4.1	2.5mm2, 2 core, Cu ECC low voltage cable.				
	i) Supply	m	35		
	ii) Install	m	35		
2.4.2	6mm2, 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1.				
	i) Supply	m	60		
	ii) Install	m	60		
	Total carried forward				

	Total brought forward				
2,5	<u>Cable Management</u>				
2.5.1	20mm galvanized steel conduit including all bends, fastenings, tees and other required accessories.				
	i) Supply	m	50		
	ii) Install	m	50		
3	<u>Generator Room</u>				
3,1	<u>Sub distribution Board</u>				
3.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
	i) Supply	No	1		
	ii) Install	No	1		
3,2	<u>Light fittings</u>				
3.2.1	Supply, deliver and install standard version 2x36W per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	2		
	ii) Install	No	2		
3.2.2	Supply, deliver and install two way, one lever switch as per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
3,3	<u>Socket Outlets/Plugs</u>				
3.3.1	Supply, deliver and install 16A double socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
3,4	<u>Low Voltage cables</u>				
3.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	25		
	ii) Install	m	25		
3.4.2	6mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	24		
	ii) Install	m	25		
	Total carried forward				

	Total brought forward				
3,5	<u>Earthing and Lightning Protection Systems</u>				
3.5.1	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.				
	i) Supply	No	1		
	ii) Install	No	1		
3,6	<u>Testing and Commissioning</u>				
3.6.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation).	sum	1		
3.6.2	Testing of the entire Earthing and Lightning protection system	sum	1		
3.6.3	Provision of all test Certificates for the electrical system	sum	1		
4	<u>Material Storage and Sandblasting</u>				
4,1	<u>Sub distribution Board</u>				
4.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling				
	i) Supply	No	1		
	ii) Install	No	1		
4,2	<u>Light fittings</u>				
4.2.1	Supply, deliver and install standard version 2x36W per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	6		
	ii) Install	No	6		
4.2.2	Supply, deliver and install two way, one lever switch as per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	2		
	ii) Install	No	2		
4,3	<u>Socket Outlets/Plugs</u>				
4.3.1	Supply, deliver and install 16A single socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	2		
	ii) Install	No	2		
	Total carried forward				

	Total brought forward				
4.3.2	Supply, deliver and install 16A double socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
4,4	<u>Low voltage Cables</u>				
4.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	40		
	ii) Install	m	40		
4.4.2	16mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	60		
	ii) Install	m	60		
4,5	<u>Earthing and Lightning Protection Systems</u>				
4.5.1	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 <i>Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.</i>				
	i) Supply	No	1		
	ii) Install	No	1		
4,6	<u>Testing and Commissioning</u>				
4.6.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation)	sum	1		
4.6.2	Testing of the entire Earthing and Lightning protection system	sum	1		
4.6.3	Provision of all test Certificates for the electrical system	sum	1		
5	<u>Equipment Store</u>				
5,1	<u>Sub distribution Board</u>				
5.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
	i) Supply	No	1		
	ii) Install	No	1		
	Total carried forward				

	Total brought forward				
5,2	<u>Light fittings and Switches</u>				
5.2.1	Supply, deliver and install standard version 2x36W per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	6		
	ii) Install	No	6		
5.2.2	Supply, deliver and install two way, one lever switch as per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
5,3	<u>Socket Outlets/Plugs</u>				
5.3.1	Supply, deliver and install Equal or similar approved to Legrand 16A double socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	3		
	ii) Install	No	3		
5,4	<u>Low voltage Cables</u>				
5.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	50		
	ii) Install	m	50		
5.4.2	16mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	80		
	ii) Install	m	80		
5,5	<u>Earthing and Lightning Protection Systems</u>				
5.5.1	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 <i>Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.</i>				
	i) Supply	No	1		
	ii) Install	No	1		
5,6	<u>Testing and Commissioning</u>				
5.6.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation).	sum	1		
5.6.2	Testing of the entire Earthing and Lightning protection system.	sum	1		
5.2.3	Provision of all test Certificates for the electrical system.	sum	1		
	Total carried forward				

	Total brought forward				
6	<u>Portal Frame</u>				
6,1	<u>Sub distribution Board</u>				
6.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
	i) Supply	No	1		
	ii) Install	No	1		
6,2	<u>Light fittings</u>				
6.2.1	Supply, deliver and install standard version 2x36W.				
	i) Supply	No	6		
	ii) Install	No	6		
6.2.2	Supply, deliver and install standard version 2x58W.				
	i) Supply	No	4		
	ii) Install	No	4		
6.2.3	Supply, deliver and install 192 LED, 125W.				
	i) Supply	No	2		
	ii) Install	No	2		
6.2.4	Supply, deliver and install one way, one lever switch.				
	i) Supply	No	1		
	ii) Install	No	1		
6.2.5	Supply, deliver and install two way, one lever switch.				
	i) Supply	No	4		
	ii) Install	No	4		
6,3	<u>Socket Outlets/Plugs</u>				
6.3.1	Supply, deliver and install 16A single socket outlet.				
	i) Supply	No	6		
	ii) Install	No	6		
6.3.2	Supply, deliver and install 16A double socket outlet.				
	i) Supply	No	5		
	ii) Install	No	5		
	Total carried forward				

	Total brought forward				
6,4	<u>Low Voltage cables</u>				
6.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	120		
	ii) Install	m	120		
6.4.2	16mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	110		
	ii) Install	m	110		
6,5	<u>Earthing and Lightning Protection Systems</u>				
	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.				
6.5.1					
	i) Supply	No	1		
	ii) Install	No	1		
6,6	<u>Testing and Commissioning</u>				
	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation).				
6.6.1		sum	1		
6.6.2	Testing of the entire Earthing and Lightning protection system	sum	1		
6.6.3	Provision of all test Certificates for the electrical system	sum	1		
7	<u>Equipment Store</u>				
7,1	<u>Sub Distribution Board</u>				
	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
7.1.1					
	i) Supply	No	1		
	ii) Install	No	1		
7,2	<u>Light fittings and Switches</u>				
7.2.1	Supply, deliver and install standard version 2x36W per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	4		
	ii) Install	No	4		
7.2.2	Supply, deliver and install two way, one lever switch as per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
	Total carried forward				

	Total brought forward				
7,3	<u>Socket Outlets/Plugs</u>				
7.3.1	Supply, deliver and install 16A double socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	2		
	ii) Install	No	2		
7,4	<u>Low voltage Cables</u>				
7.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	50		
	ii) Install	m	50		
7.4.2	16mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	145		
	ii) Install	m	145		
7,5	<u>Earthing and Lightning Protection Systems</u>				
7.5.1	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.				
	i) Supply	No	1		
	ii) Install	No	1		
7,6	<u>Testing and Commissioning</u>				
7.6.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation).	sum	1		
7.6.2	Testing of the entire Earthing and Lightning protection system.	sum	1		
7.6.3	Provision of all test Certificates for the electrical system.	sum	1		
8	<u>General Stores</u>				
8,1	<u>Sub distribution Board</u>				
8.1.1	Supply, deliver and Install a complete 100A, 25kA 1s, sub distribution board as per drawing number XSDE0015-000-E-SL-0001-01-.1 for the electrical and red tag store, inclusive of all switchgear, earth leakage surge protection, wiring and labelling.				
	i) Supply	No	1		
	ii) Install	No	1		
	Total carried forward				

	Total brought forward				
8,2	<u>Light fittings and Switches</u>				
8.2.1	Supply, deliver and install, 2x36W per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	6		
	ii) Install	No	6		
8.2.2	Supply, deliver and install, two way, one lever switch as per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	1		
	ii) Install	No	1		
8,3	<u>Socket Outlets/Plugs</u>				
8.3.1	Supply, deliver and install 16A double socket outlet per drawing number XSDE0015-000-E-LA-0001-01-.1				
	i) Supply	No	3		
	ii) Install	No	3		
8,4	<u>Low voltage Cables</u>				
8.4.1	2.5mm ² , 2 core, Cu ECC				
	i) Supply	m	50		
	ii) Install	m	50		
8.4.2	6mm ² , 2 core, Cu, ECC low voltage cable including glands as per drawing number: XSDE0015-000-E-LA-0003-01-.1				
	i) Supply	m	100		
	ii) Install	m	100		
8,5	<u>Earthing and Lightning Protection Systems</u>				
8.5.1	Design, supply, deliver and installation of earthing and lighting protection system (including down conductor, earth spikes, test points etc inline with concept drawing number : XSDE0015-000-E-LA-0004-01-.1 Note: The design shall comply with TPD-004-EARTHINGSPEC. The lightning protection scheme shall only be installed should a qualified lightning engineer deem the risk factors sufficient.				
	i) Supply	No	1		
	ii) Install	No	1		
8,6	<u>Testing and Commissioning</u>				
8.6.1	Complete testing and commissioning of the entire of the installation as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations (entire installation)	sum	1		
8.6.2	Testing of the entire Earthing and Lightning protection system.	sum	1		
8.6.3	Provision of all test Certificates for the electrical system.	sum	1		
	Total carried forward				

	Total brought forward				
9	<u>Carport Structure</u>				
9,1	<u>Light fittings</u>				
9.1.1	Supply, deliver and install LEDs per drawing number XSDE0015-000-E-LA-0002-01-.1 must be connected to circuit L2 in General / Material Store (including all accessories)).				
	i) Supply	No	6		
	ii) Install	No	6		
9,2	<u>Low voltage Cables</u>				
9.2.1	4mm2, 2 core, Cu ECC including glands and other accessories				
	i) Supply	m	20		
	ii) Install	m	20		
9,3	<u>Testing and Commissioning</u>				
9.3.1	Complete testing and commissioning of the entire lighting circuitry as required. Note: Suitably qualified and experienced personnel only to test and commission the relevant equipment / installations	sum	1		
9.3.2	Testing of the entire Lighting system	sum	1		
9.3.3	Provision of all test Certificates for the lighting system including illuminance test reports.	sum	1		
	Total carried forward to summary				