

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	SANS 1200A	<u>SECTION ONE : PRELIMINARY AND GENERAL (Applicable to the whole of the Works)</u>				
	8,3	<u>FIXED CHARGE ITEMS</u>				
1	8.3.1	Contractual requirements.	SUM	1		
	8.3.2	Establishment of Facilities on the Site				
	8.3.2	Facilities for Engineer				
2	8.3.2.1a	Furnished offices. (In No.2)	SUM	1		
3	8.3.2.1b	Telephone.	SUM	1		
4	8.3.2.1c	Name boards. (In No. 1).	SUM	1		
	8.3.2.2	Facilities for Contractor				
5	8.3.2.2a	Offices and storage sheds.	SUM	1		
6	8.3.2.2b	Workshops.	SUM	1		
7	8.3.2.2c	Laboratories.	SUM	1		
8	8.3.2.2d	Living accommodation.	SUM	1		
9	8.3.2.2e	Ablution and latrine facilities.	SUM	1		
10	8.3.2.2f	Tools and equipment.	SUM	1		
11	8.3.2.2g	Water supplies, electric power, communications, dealing with water, and access.	SUM	1		
12	8.3.2.2j	Plant.	SUM	1		
13	8.3.3	Other fixed charge obligations.	SUM	1		
14	8.3.4	Removal of site establishment.	SUM	1		
	8,3	VALUE RELATED ITEMS				
15	8.3.1	Contractual requirements.	SUM	1		
	8.3.2	Establishment of Facilities on the Site				
	8.3.2.1	Facilities for Engineer				
16	8.3.2.1a	Furnished offices. (In No.2)	SUM	1		
17	8.3.2.1b	Telephone.	SUM	1		
18	8.3.2.1c	Name boards. (In No. 1).	SUM	1		
	8.3.2.2	Facilities for Contractor				
19	8.3.2.2a	Offices and storage sheds.	SUM	1		
20	8.3.2.2b	Workshops.	SUM	1		
21	8.3.2.2c	Laboratories.	SUM	1		
22	8.3.2.2d	Living accommodation.	SUM	1		
23	8.3.2.2e	Ablution and latrine facilities.	SUM	1		
24	8.3.2.2f	Tools and equipment.	SUM	1		
25	8.3.2.2g	Water supplies, electric power, communications, dealing with water, and access.	SUM	1		
26	8.3.2.2j	Plant.	SUM	1		
27	8.3.3	Other value related obligations.	SUM	1		
28	8.3.4	Removal of site establishment.	SUM	1		
	8,4	TIME RELATED ITEMS				
29	8.4.1	Contractual requirements.	MONTHS	24		
	8.4.2	Operation and Maintenance of Facilities on Site, for Duration of Construction, (unless otherwise stated)				
	8.4.2.1	Facilities for Engineer				
30	8.4.2.1a	Furnished offices. (In No.2)	MONTHS	24		
31	8.4.2.1b	Telephone.	MONTHS	24		
32	8.4.2.1c	Name boards. (In No.1).	MONTHS	24		
33	8.4.2.1d	Survey assistants and materials.	MONTHS	24		
	8.4.2.2	Facilities for Contractor				
34	8.4.2.2a	Offices and storage sheds.	MONTHS	24		
35	8.4.2.2b	Workshops.	MONTHS	24		
36	8.4.2.2c	Laboratories.	MONTHS	24		
Carried Forward						

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Brought Forward						
37	8.4.2.2d	Living accommodation.	MONTHS	24		
38	8.4.2.2e	Ablution and latrine facilities.	MONTHS	24		
39	8.4.2.2f	Tools and equipment.	MONTHS	24		
40	8.4.2.2g	Water supplies, electric power, communications, dealing with water, and access.	MONTHS	24		
41	8.4.2.2j	Plant.	MONTHS	24		
42	8.4.3	Supervision for duration of construction.	MONTHS	24		
43	8.4.4	Company and head office overhead costs for duration of construction.	MONTHS	24		
44	8.4.5	Other time related obligations.	MONTHS	24		
	8,5	PROVISIONAL SUMS FOR:				
45	8.5a	Work to be executed by the Contractor and valued in terms of the "valuation of variations" clause in the conditions of contract.	SUM	1		
46	8.5b.1	work to be executed by the Employer or a Nominated Sub-Contractor.	SUM	1		
47	8.5b.2	Overheads, charges and profit on (a) above.	SUM	1		
48	8.5b.3	Specified activities associated with or independent of (a) or (b) above.	SUM	1		
	8,6	PRIME COST ITEMS				
49	8.6a	Prime cost of goods of materials to be supplied to the site of the Works in terms of the contract.	SUM	1		
50	8.6b	Overheads, charges and profit on (a) above	SUM	1		
51	8.6c	Transport and labour to handle and install (a) above	SUM	1		
	8,7	DAYWORK				
52	8.7a	Artisan	HR/DAY			Rate only
53	8.7b	Labourer	HR/DAY			Rate only
54	8.7c	Operator / Machine operator	HR/DAY			Rate only
55	8.7d	Supervisor	MONTH	24		
56	8.7e	Contractor's manager	MONTH	24		
	8,8	TEMPORARY WORKS				
57	8.8.1	Main access road to works.	SUM	1		
58	8.8.2	Dealing with or accommodation of traffic.	SUM	1		
59	8.8.3	Protection with suitable structure until construction in vicinity is complete.	SUM	1		
	8.8.4	Existing services.				
60	8.8.4a	Supply or hire of specialist equipment for the detection of a particular service.	SUM	1		
61	8.8.4b	The use of equipment referred to in (a) above.	SUM	1		
62	8.8.4c	Excavation by hand in soft material to expose service.	m3	100		
63	8.8.4d	Temporary protection, as required in terms of the project specification, of existing services	SUM	1		
	8.8.5	Cost of survey in terms of the Land Survey Act.				
64	8.8.5a	Trigonometrical survey and plot boundary pegs - locate and record.	SUM	1		
65	8.8.5b	Trigonometrical survey of plot boundary pegs - protect and re-establish.	SUM	1		
66	8.8.6	Special water control in terms of Project Specification.	SUM	1		
67	8,9	Compensation in terms of Sub Clause 8.5, 8.7, 8.8, 8.9 and 8.10 of the FIDIC, for delays incurred.				
		(a)Plant	DAY			Rate only
		(b)Labour	DAY			Rate only
		(c)Supervision	DAY			Rate only
68	8,1	Compliance with OHS and MHSA Act and Regulations (including the Construction Regulations, 2003)	SUM	1		
Carried to Final Summary						

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION TWO : BUILDING NO 1 & 4 - WAREHOUSE				
		BILL NO. 1 : ALTERATIONS				
		SUPPLEMENTARY PREAMBLES				
		<u>General</u> Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u> Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u> Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u> Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork Protection The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		<u>HOARDING, ETC</u>				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		REMOVAL OF EXISTING WORK				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
2		Breaking up and removing reinforced concrete Surface beds	m3	173		
3		Breaking down and removing brickwork etc One brick walls	m2	534		
4		<u>Taking out and removing pressed steel door frames and steel/timber doors including repairs to brickwork and preparation thereof to receive new frames</u> Steel single door and frame not exceeding 2,5m2	No	6		
5		Steel window not exceeding 2,5m2	No	9		
6		Steel roller shutter doors 3 x 3m high	No	2		
7		<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u> Pitched corrugated sheet steel covering, ceilings and cornices, eaves soffit covering, fascias, barge	m2	575		
		Carried Forward				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
8		Corrugated sheet steel side cladding	m2	439		
9		Removal of floor tiles complete including making good screeds	m2	53		
		Taking out and removing glass and mirrors				
10		Glass from steel windows, including cleaning out rebates and preparing for new safety glass	m2	10		
		<u>REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.</u>				
11		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	300		
		<u>SERVICES ALTERATIONS</u>				
12		Provide the budgetary allowance of R15 000,00 (Fifteen Thousand Rand) for the careful disconnection of existing plumbing services reticulation, and make safe as per the engineers requirements, remove existing sanitary fittings, etc including disconnecting piping from fittings	Item	1	15 000,00	
13		Provide the budgetary allowance of R15 000,00 (Fifteen Thousand Rand) for the careful disconnection of existing electrical reticulation, and make safe as per the engineers requirements, remove existing light fittings, etc including disconnecting cables from all fittings	Item	1	15 000,00	
14		Provide the budgetary allowance of R15 000,00 (Fifteen Thousand Rand) for the careful disconnection of all existing mechanical reticulation, including removing all existing hvac fittings, fire fittings, etc. and make safe for demolition works	Item	1	15 000,00	
Carried Forward to Summary of Section No. 2						

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		BILL NO. 2 : EARTHWORKS The Tenderer is referred to the relevant Clauses in the separate document 'Model Preambles for Trades' (2017 Edition) and to the Supplementary Preambles. SUPPLEMENTARY PREAMBLES Contour drawings: The following quantities have been computed from the dimensions and contours shown on the drawing. Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced. Transport of earthworks: The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to: (i) All material excavated on site and used for filling on site. (ii) All material excavated on site and stockpiled on site. Notice: The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation Rates: Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this. Computation of quantities: Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required. Taking and testing of samples: The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification. Prices for filling are to include for all necessary density tests with SABS 1200D The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect. Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense. Carting away of excavated material: 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. EXCAVATION, FILLING, ETC. OTHER THAN BULK <u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u> Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:				
1		Trenches	m3	38		
2		Reducing levels under floors	m3	431		
3		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
4		Soft rock.	m3	4		
5		Hard rock.	m3	2		
		<u>Extra over excavations for carting away.</u>				
6		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	277		
		Carried Forward				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Risk of collapse of excavations:</u>				
7		Sides of trench and hole excavations not exceeding 1,5m deep.	m2	108		
		<u>Keeping excavations free of water:</u>				
8		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		FILLING, ETC.				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
9		In 150mm thick layers in backfilling under surface beds	m3	173		
10		In 150mm thick layers in backfilling to trenches and holes	m3	15		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
11		Under surface beds, holes, etc.	m3	253		
		<u>Compaction of surfaces:</u>				
12		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	575		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ☐ To be applied by a certified pest control contractor. ☐ Not when soil is excessively wet. ☐ Do not disturb treated surface. ☐ Do not bury scraps of timber in ground fill. ☐ Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
13		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	575		
14		To bottoms and sides of trenches, etc.	m2	145		
		Carried Forward to Summary of Section No. 2				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>				
		The Tenderer is referred to the relevant Clauses in the separate document 'Model Preambles for Trades' (2017 Edition) and to the Supplementary Preambles.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Cost of tests:</u>				
		The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).				
		<u>Formwork:</u>				
		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.				
		The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.				
		Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.				
		Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.				
		<u>CONCRETE</u>				
		<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>15MPa/19mm Concrete in:</u>				
1		Surface blinding under footings and bases.	m3	2		
		<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>30MPa/19mm Concrete in:</u>				
2		Strip footings.	m3	9		
3		Surface beds cast in panels on waterproofing.	m3	173		
		<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>				
		<u>30MPa/19mm Concrete in:</u>				
4		Beams	m3	2		
		<u>Test blocks:</u>				
5		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	29		
		<u>CONCRETE SUNDRIES</u>				
		<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>				
6		Surface beds laid in panels.	m2	575		
		<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Rough formwork to sides of:</u>				
7		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	108		
		<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Smooth formwork to sides and soffits of:</u>				
8		Beams with total height exceeding 3,5m and not exceeding 5m above bearing capacity.	m2	11		
		<u>Extra on smooth formwork for boxing in to form:</u>				
9		25 x 25mm Horizontal chamfer to corner of beams.	m	28		
		<u>MOVEMENT JOINTS, ETC.</u>				
		10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint file and backing strip between concrete surface bed and walls or kerbs:				
		Carried Forward				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
10		Not exceeding 300mm high to edges of surface beds.	m	108		
		<u>Saw-cut joints:</u>				
11		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	267		
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
12		Surface beds, slabs, etc. not exceeding 300mm thick.	m	133		
		REINFORCEMENT				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
13		Reinforcement bars in various diameters.	t	1		
		High tensile steel dowel bars				
		20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve eith end cap including hole through formwork	No	270		
		<u>Fabric reinforcement:</u>				
15		Type 245 fabric reinforcement in concrete surface beds, slabs, etc.	m2	500		
16		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	75		
		Carried Forward to Summary of Section No. 2				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : MASONRY</u>				
		<u>The Tenderer is referred to the relevant Clauses in the separate document 'Model Preambles for Trades' (2017 Edition) and to the Supplementary Preambles.</u>				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		<u>Sizes in descriptions</u>				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN FOUNDATIONS</u>				
		<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>				
1		One brick walls	m2	42		
2		350mm Thick cavity of two half brick skins	m2	12		
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
3		Half brick walls.	m2	17		
4		One brick walls.	m2	131		
5		350mm Thick cavity of two half brick skins	m2	46		
		<u>BRICKWORK SUNDRIES</u>				
6		Closing 120mm cavity of hollow wall vertically with brickwork half brick wide	m	12		
		<u>Brickwork reinforcement:</u>				
7		75mm Wide reinforcement built in horizontally.	m	713		
8		150mm Wide reinforcement built in horizontally.	m	1 033		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
9		Extra over brickwork for face brickwork in stretcher bond	m2	127		
10		Extra over brickwork for face brickwork in stretcher bond in foundations	m2	10		
		Carried Forward to Summary of Section No. 2				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : WATERPROOFING</u>				
		<u>The Tenderer is referred to the relevant Clauses in the separate document 'Model Preambles for Trades' (2017 Edition) and to the Supplementary Preambles.</u>				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMPPROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 375 micron 'Consol Plastics Brickgrip DPC' embossed damp proof course sealed at all edges, laid and joint in strict accordance with the manufacturer's instructions:</u>				
1		Laid horizontally and built under walls, cills, etc.	m2	12		
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions:</u>				
2		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	575		
		<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC.</u>				
		The Contractor shall allow in his rates for testing the waterproofing for water tightness by ponding the waterproofed surfaces for a period of at least 48 hours before application of the protection layer. Should any leaks occur the contractor shall remedy them at his own expense. Waterproofing to be installed by an approved Derbigum Contractor under a ten-year insurance backed guarantee.				
		<u>Two coats 'Brixal' bituminous paint</u>				
3		On waterproofing to backs/inside of cavity walls	m2	46		
		<u>JOINT SEALANTS, ETC.</u>				
		<u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE'. Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for no porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>				
4		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	267		
5		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	241		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		BILL NO. 6 : ROOF COVERINGS				
		<u>The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).</u>				
		SUPPLEMENTARY PREAMBLES				
		<u>Straight cutting</u>				
		Descriptions of all roof coverings are deemed to include for all straight cutting.				
		<u>Profiled fibre-cement sheeting and accessories</u>				
		Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.				
		"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.				
		<u>Guarantees:</u>				
		"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor. A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."				
		PROFILED METAL SHEETING AND ACCESSORIES				
		<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure. All to Structural Engineer's Detail and Specifications.</u>				
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	567		
2		Canopy roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	20		
3		Side cladding fixed to steel girts (girts elsewhere measured).	m2	439		
4		Ridge or hip flashing	m	42		
5		Headwall flashing	m	11		
6		Drip flashing	m	136		
7		Edge / corner flashings	m	224		
8		Extra over roof covering for bullnose between roof sheeting and side cladding	m	84		
9		Circular cutting	m	9		
		<u>Galvanised continuous roll formed corrugated "IBR" Translucent Sheetings Or Similar Approved Concealed Fixing Roof Covering, fixed onto to HDGM steel Roof Sub-structure & Portal Frame Structure. All to Structural Engineer's Detail and Specifications</u>				
10		Roof covering with pitch not exceeding 25 degrees	m2	103		
11		Side cladding	m2	137		
12		Ridge or hip flashing	m	7		
13		Extra over roof covering for bullnose between roof sheeting and side cladding	m	14		
14		Circular cutting	m	18		
		ROOF INSULATION				
		<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions:</u>				
15		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	1 006		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : CARPENTRY AND JOINERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at maximum 600mm centres, and where described as "bolted" the bolts have been given elsewhere				
		<u>Decorative thermosetting plastic laminate covering</u>				
		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
		<u>Decorative laminate finishes shall be glued under pressure</u>				
		<u>Hardwoods</u>				
		All hardwoods shall be specially selected, well seasoned, free from sapwood and kiln dried. Meranti shall be red or medium brown meranti, even in grain and colour				
		<u>Sealing of all abutments</u>				
		All cupboards, counter tops, shelves, etc. abutting walls, tiled surfaces, etc. to be sealed watertight with an approved silicon sealant along all joints				
		<u>DOORS, ETC</u>				
		<u>Wrought meranti doors, hung to steel frames</u>				
1		40mm Framed slatted door 813 x 2135mm high of 40 x 150mm top rail and stiles, 18 x 150mm middle ledge and braces and 40 x 220mm bottom rail, filled in with 18mm V-jointed one side boarding and covered on other side with 4mm plywood with veneer to match door, let into and including rebates all round	No	4		
		<u>Fire doors with hardwood veneer</u>				
2		2 Hour fire-rated (FA) ASSA ABLOY door, 1,070 x 2,400mm high including suitable pressed steel frame and complete with ironmongery (mechanical lock and a security cylinder) and preparing frame for door closers	No	2		
		<u>BUDGETARY ALLOWANCES</u>				
3		Provide the budgetary allowance of R50 000,00 (Fifty Thousand Rand) for the supply and installation of lockers	Item	1	50 000,00	
4		Provide the budgetary allowance of R20 000,00 (Twenty Thousand Rand) for the supply and installation of benches	Item	1	20 000,00	
5		Provide the budgetary allowance of R150 000,00 (One Hundred and Fifty Thousand Rand) for the supply and installation of joinery fittings	Item	1	150 000,00	
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		BILL NO. 8 : CEILINGS, PARTITIONS AND ACCESS FLOORING				
		<u>The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).</u>				
		SUPPLEMENTARY PREAMBLES				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", are deemed to be included.				
		<u>Ceilings</u>				
		Unless otherwise described ceilings shall be deemed to be horizontal				
		<u>Bulkheads</u>				
		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
		<u>Steel components</u>				
		All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121				
		<u>Openings</u>				
		Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc				
		SUSPENDED CEILINGS				
		SUPPLEMENTARY PREAMBLES				
		<u>Proprietary suspended ceilings</u>				
		Hangers, suspension grids, "lay-in" panels, etc are to be in accordance with the manufacturers' recommendations				
		Electrical light fittings, diffusers, panels etc are generally "lay-in" units of the same dimensions as the suspension grid described and allowance must be made in the rates accordingly for their support inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof)				
		<u>Supply and install 9mm thick flush plastered ceiling on 3600mm Jumbo main tees at 1200mm centres in one direction and 1200mm Jumbo cross tees at 400mm centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 9 mm Jumbo Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster all installed strict accordance with the manufacturer's instructions.</u>				
1		Ceilings suspended exceeding 1m and not exceeding 3,5m below steel purlins	m2	12		
		<u>Supply and install 12mm thick moisture resistant flush plastered ceiling on 3600mm Jumbo main tees at 1200mm centres in one direction and 1200mm Jumbo cross tees at 400mm centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 9 mm Jumbo Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster all installed strict accordance with the manufacturer's instructions.</u>				
2		Ceilings suspended exceeding 1m and not exceeding 3,5m below steel purlins	m2	53		
		<u>Cornices, perimeter trims, etc. to suspended ceilings.</u>				
3		White powder coated metal shadowline cornice as per "DONN SM25".	m	65		
		PARTITIONING				
		<u>Rhino-Drywall System No 1" steel stud partitioning with "Rhino Wallboard" on both sides, the joints covered with "Gyproc Rhino" scrim tape and 2 layers of "Gyproc Rhinoglide" skim, and the whole surface fully skimmed on both sides, including sound insulation in the cavity</u>				
4		Partitioning 3076mm high with bottom and top tracks plugged (reception and kitchen)	m	17		
		Carried Forward				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
5		Extra over partitioning 3076mm high for corner	No	3		
6		Extra over partitioning 3076mm high for abutment	No	4		
		Door openings				
7		Extra over partitioning for opening for door 813 x 2135mm high including aluminium door frame (timber door elsewhere)	No	2		
		Powder coated aluminium windows glazed with minimum 6.76mm HPR (high penetration resistance) laminated safety glass and plugged to drywalling				
		Refer to architect's window schedules for details of windows				
8		Extra over partitioning for opening for and including aluminium window 900 x 1100mm high complete with frame, glass, ironmongery, etc.	No	1		
9		Extra over partitioning for opening for and including aluminium window 1500 x 1100mm high complete with frame, glass, ironmongery, etc.	No	1		
		TOILET CUBICLE PARTITIONING				
		<u>Cubicle Solutions - CODE: CEX 1/304 Manufactured using 12mm compact high pressure laminate (CHPL) Colour code: MAX on Top 074 patel grey, with overhead rail and hanging clamp (CODE: cshc01/304/13) and floor anchored with adjustable supporting feet (CODE: csf01/304/13). All fixings and ironmongery in 304 & 316 grade stainless steel as specified. Ironmongery to include hat and coat hook (CODE: csxhco1/304), indicator bolt (CODE: CSTIN1/316) and rise and fall butt auto close or auto open hinge (CODE: CSTR & F 01/316)</u>				
10		One cubicle in the male toilets complete	No	1		
11		Two cubicles in the female toilets complete	No	1		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 9 : IRONMONGERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Proprietary items</u>				
		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Rates are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc clarifying the features of the products/articles offered On request returnable samples are to be provided to the project manager for consideration				
		<u>Finishes to ironmongery</u>				
		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD SandedNP Nickel plated				
		<u>GENERAL NOTES TO TENDERERS</u>				
		General notes, described in Bill No. 1, shall equally apply to this Bill.				
		<u>HINGES, BOLTS, ETC</u>				
		<u>"Geze" or similar approved</u>				
1		"095/76" 100 x 75 x 3mm S.S 2BB hinge	Pairs	12		
		<u>LOCKS</u>				
		<u>"Geze" or similar approved</u>				
2		"742/68" 76mm stainless steel profile cylinder deadlock	No	2		
3		"730/68" 76mm stainless steel profile arch sashlock	No	2		
4		"HA2960SR" panic latch complete with cross bars fixed to timber	No	2		
5		"892-66/78" 5 Pin nickel plated single cylinder 3k	No	2		
6		"880-66/78" 5 Pin nickel plated double cylinder 66mm 3k	No	2		
7		"ED908/CY" stainless steel profiled cylinder escutcheon	No	6		
		<u>HANDLES</u>				
		<u>"Geze"</u>				
8		"EDE101C69" Daytona 19mm / 165 x 165 x 1,5mm pull plate and handle	Pairs	2		
9		"075/160/B" -BT pull handle 111 x 19mm on 160 x 160 x 1,5mm pull plate SS	No	2		
		<u>PUSH PLATES AND KICKING PLATES</u>				
		<u>"Geze"</u>				
10		"079/160" 160 x 160 x 1,6mm Thick Stainless steel push plate	No	2		
11		"080/SPEC" Stainless steel kick plate	No	8		
		<u>DOOR CLOSERS</u>				
		<u>"Geze"</u>				
12		"AZ2001SR TS2000VP" DCL door closer with parallel arm bracket SR fixed to metal	No	4		
		<u>LETTERS, NAME PLATES, ETC</u>				
		<u>Manufactured by "Geze"</u>				
13		"079/160/E/EM" 160 x 160 x 1,2mm stainless steel plate with a male symbol	No	1		
14		"079/160/E/F" 160 x 160 x 1,2mm stainless steel plate with a female symbol	No	1		
15		"079/160E/RM" 160 x 160 x 1,2mm stainless steel plate with a running man symbol	No	2		
		<u>SUNDRIES</u>				
		<u>"Geze" or similar approved</u>				
16		"140/83" floor mounted doorstop "M140 SACR"	No	4		
		Carried Forward				

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THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 10 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Structural steelwork</u>				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings.				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids.				
		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 and concrete.				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
1		260 x 90 x 38kg/m Parallel flange channel purlins	t	1,37		
		<u>THE FOLLOWING IN ALL 3 CANOPIES</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded beams in single lengths, welded to steel columns</u>				
2		IPE 180 x 91mm x 19kg/m rafters	t	0,25		
		<u>Bolts to trusses etc</u>				
3		8 x M20 Bolt and Nuts	No	112		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
4		100 x 50 x 20 x 3mm Lipped channel section purlins welded or bolted to brackets	t	0,20		
		60mm Diameter x 5mm circular hollow section stays	t	0,13		
		<u>PAINTWORK</u>				
		<u>Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascotuff 3500 patch primer, one coat Plascoquard 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane</u>				
5		On structural steel members	t	1,95		
6		Re-paint existing structural steel members	t	35,94		
		Carried Forward to Summary of Section No. 2				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 11 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Descriptions of bolts, anchors, etc				
		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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>PRESSED STEEL DOOR FRAMES</u>				
		<u>1,6mm Single rebated frames suitable for one brick walls</u>				
1		Frame for door 813 x 2135mm high	No	2		
		<u>ALUMINIUM DOORS</u>				
		<u>Natural anodised aluminium windows glazed with 6.38mm clear PVB laminated safety glass as per "AAAMSA" regulations and SANS 10400-N, complete with subframes, ironmongery, glass, sealing, etc and fixing to brickwork or concrete</u>				
2		Window suitable for opening 600 x 600mm high overall	No	8		
3		Window suitable for opening 1800 x 900mm high overall	No	2		
		<u>GALVANISED STEEL ROLLER SHUTTER DOORS, ETC.</u>				
		Automated high light industrial zincalume roller shutters fixed to brickwork or concrete				
4		Roller shutter for 3025 x 3000mm high opening	No	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
5		Roller shutter for 4000 x 4000mm high opening	No	1		
		<u>CLEARVU FENCING</u>				
		High security "Clearvu" invisible type cut resistant strengthened welded mesh panel fencing system comprising 2,4m high x approximately 3m wide panels in minimum 3mm diameter vertical and horizontal wires with approximately 76,2 x 12,7mm aperture size and four anti-climb V- or similar shaped panel horizontal bends, standard security type posts minimum 7m long at 3m centres complete with 400 x 400 x 600mm deep class 15 MPa reinforced concrete post bases in ground with all components and spike rails with ribbed/flared spikes securely fixed along top of fencing and gates fully galvanized	m	39		
6		Sliding gate 1,6m wide x 2,4m high to match high security fencing system with approximately 76,2 x 12,7mm aperture size welded mesh panels complete with steel framing, bracing, mesh panel covering, posts, rails, guide posts, rollers, guides and guide wheels, locking system, concrete foundation or footing for rails etc, fully galvanized	No	6		
7		<u>BUDGETARY ALLOWANCES</u>				
8		Provide the budgetary allowance of R50 000,00 (Fifty Thousand Rand) for burglar bars	Item	1	50 000,00	
Carried Forward to Summary of Section No. 2						

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THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 13 : TILING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>TILING NOTE</u>				
		All PC amounts include for delivery to site, handling, storing, etc.				
		<u>WALL TILING</u>				
		<u>600 x 600 x 8mm Matt glazed colour body porcelain wall tiles (PEI 5 rating) fixed with rapid setting tile adhesive to plastered walls and grout to manufacturer's specifications and in compliance with the SABS approved standards, pattern and colour to architects approval</u>				
1		On walls	m2	136		
2		On walls in isolated panels, splashbacks, etc	m2	2		
3		On narrow widths	m2	4		
		<u>600 x 600 x 8mm Matt glazed colour body porcelain floor tiles (PEI 5 rating) fixed with rapid setting tile adhesive to screed (screed elsewhere) and flush pointed with 3mm waterproof jointing compound all in accordance with manufacturer's instructions</u>				
4		On floors and landings	m2	53		
5		100mm High tile skirting	m	59		
		<u>Mosaic ceramic floor tiles (PC amount of R450 per m2 excluding VAT) fixed with adhesive to screed (screed elsewhere) and flush pointed with dark grey tinted waterproof jointing compound</u>				
6		On floors and landings to falls	m2	4		
7		On top and sides of upstands not exceeding 300mm girth	m	4		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 14 : PLUMBING AND DRAINAGE</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Concrete pipes:</u>				
		Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings				
		<u>uPVC pipes and fittings:</u>				
		Soil, waste and vent pipes and fittings shall be solvent weld jointed				
		<u>uPVC pressure pipes and fittings:</u>				
		Pipes for water supply shall be of the class stated				
		Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings				
		<u>Copper pipes:</u>				
		Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground				
		<u>Fixing of pipes</u>				
		Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level				
		<u>Reducing fittings</u>				
		Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
		<u>Wire gratings</u>				
		Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings				
		<u>Exposed concrete surfaces</u>				
		Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gully tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster				
		<u>Excavations</u>				
		No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling				
		"Soft rock" and "hard rock" shall be as defined in "Earthworks"				
		<u>Laying, backfilling, bedding, etc. of pipes</u>				
		Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions				
		Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding				
		<u>Flush pans</u>				
		Flush pans shall have straight or side outlets and "P" or "S" traps as necessary				
		<u>Stainless steel basins, sinks, wash troughs, urinals, etc.</u>				
		Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable				
		<u>Waste unions</u>				
		Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Steel sectional water tanks</u>				
		Tanks shall comply with SABS CKS 114				
		<u>Petrolatum anti-corrosion tape</u>				
		Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described				
		Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc				
		<u>As-built drawings</u>				
		Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the project manager for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)				
		<u>GENERAL NOTES TO TENDERERS</u>				
		General notes, described in Bill No. 1, shall equally apply to this Bill.				
		<u>SANITARY FITTINGS</u>				
		<u>Stainless steel</u>				
1		"Franke Model 1990007" 1200 x 500 x 149mm "Quinline QLX621-120" stainless steel inset double bowl sink	No	1		
		<u>Vitreous china etc.</u>				
2		"Grohe Dawn VAA-439600WH" vitreous china wall hung washdown pan with model "VAA-8084Z000" galvanised fixations, and "Geberit Alpha 110.175.00.1" 80mm cistern, and "Geberit Alpha 115045.21.1" chrome plated flush plate	No	3		
3		"Vaal/Grohe Dawn VAA-704201WH" vitreous china "Weaver" basin 575 x 455mm installed in strict accordance to manufacturer's specification	No	6		
4		"Grohe Dawn VAA-7051227WH" white vitreous china wall hung urinal with "Geberit 116.003.00.1" installation set with flush pipe (flushing valve elsewhere)	No	1		
		<u>WASTE UNIONS ETC</u>				
5		32mm Basin waste union	No	7		
6		38mm Bath or sink waste union	No	1		
		<u>TRAPS ETC</u>				
		Traps, etc including joints to steel pipe and/or fittings unless otherwise described				
		<u>uPVC etc.</u>				
7		32 - 40mm Butyl rubber deep seal "P" or "S" trap	No	1		
		<u>Brass</u>				
8		"Grohe Dawn COB-373SQ" chrome shower trap including grating	No	4		
		<u>CP</u>				
9		32mm CP bottle trap	No	6		
10		50mm "Geberit 152.950.11.1" horizontal outlet urinal trap	No	1		
		<u>TAPS, VALVES, ETC</u>				
11		15mm CP angle regulating valve	No	15		
12		"Grohe Dawn GRO-27644001" tempesta chrome 100 shower rail set, and "Grohe Dawn COBFSAOEGN-oGT01 50" chrome wall outlet	No	4		
13		"Grohe Dawn COB-FC-970" chrome sink mixer	No	1		
14		"Hansgrohe 31733343" decor mixer	No	6		
15		"Geberit 116.015.SN.1" urinal flush control with pneumatic flush actuation, polished/brushed stainless steel actuator plate type 10	No	1		
16		15mm 200 x 200 x 2mm square CP polymer shower head	No	4		
17		400mm Tubular shower arm	No	4		
18		600mm "Square minimalist type hand shower rail with sliding hand shower holder	No	4		
19		15mm Single lever undertile bath/shower diverter mixer	No	4		
		<u>SANITARY PLUMBING</u>				
		<u>uPVC pipes</u>				
20		50mm Pipes	m	75		
21		110mm Pipes	m	30		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Extra over uPVC pipes for fittings</u>				
22		50mm Bend	No	30		
23		50mm Access bend	No	30		
24		110mm Bend	No	15		
25		110mm Pan connector	No	3		
26		110mm Access bend	No	6		
		<u>Sundries</u>				
27		Testing waste pipe system	Item	1		
		<u>WATER SUPPLIES</u>				
		<u>Class 1 copper pipes</u>				
28		15mm Pipes	m	150		
29		22mm Pipes	m	75		
		<u>Extra over class 1 copper pipes for capillary fittings</u>				
30		15mm Fittings	No	150		
31		22mm Fittings	No	75		
		<u>Copper overflow and service pipes</u>				
32		15mm Service pipe 350mm girth	No	3		
		<u>TESTING</u>				
33		Testing water pipe system	Item	1		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 15 : GLAZING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		NOTE: Unless otherwise stated herein all items in this bill shall be deemed to fall into Work Group No. 150 for Contract Price Adjustment Provisions (CPAP) formula purposes				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>GLAZING TO WOOD WITH PINNED ON BEADS (BEADS ELSEWHERE)</u>				
		<u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u>				
		<u>6mm Silvered float glass copper backed mirrors with 10mm bevelled and polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u>				
1		Mirror 600 x 900mm high with four dome-head mirror screws	No	6		
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		BILL NO. 16 : PAINTWORK				
		PREAMBLES				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		All paint applications are to be in strict accordance with the Manufacturers' specification.				
		ON POWERFLOATED CONCRETE SURFACES				
		Prepare surface and prime with Vuka Crete Primer at 4m2/L then install Vuka Crete HD water based polyurethane compound 9mm thick in strict accordance with the technical data obtainable from Vuka Floors. All work to be done by Vuka Floors approved applicators.				
1		On powerfloated floors	m2	575		
		5mm thick X 75mm high skirting with 50mm coved radius using Flowcrete F1 Coving Motar sealed with Flowfresh Coating				
2		On skirting	m	176		
		PLASCON OR SIMILAR APPROVED:				
		ON INTERNAL; CEMENT PLASTER, RHINOLITE AND CONCRETE WALLS:				
		Ensure that surfaces are dry, sound and clean and apply one coat "Plascon Professional Gypsum & Plaster Primer (PP700)" and two finishing coats "Plascon Velvaglo Water Based (VLW/TVW)"				
3		On walls.	m2	263		
		Ensure that surfaces are dry, sound and clean and apply one coat "Plascon Professional Gypsum & Plaster Primer (PP700)" and two finishing coats "Plascon Professional Superior Low Sheen (PEM 1000/TLS)"				
4		On existing internal plastered walls	m2	572		
5		On existing external facebrick walls	m2	145		
6		On drywall partitioning.	m2	102		
		ON METAL SURFACES				
		Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascotuff 3500 patch primer, one coat Plascoguard 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane				
7		On burglar bars and gates both sides measured.	m2	10		
		ON WOOD				
		Sand down smooth and prepare for 2 coats silkwood varnish colour by Architect. (FLB doors)				
8		On doors.	m2	26		
9		On skirtings, rails, etc, not exceeding 300mm girth	m	74		
		BUDGETARY ALLOWANCES				
10		Provide the budgetary allowance of R300 000,00 (Three Hundred Thousand Rand) for external wall claddings	Item	1	300 000,00	
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 16 : PROVISIONAL SUMS</u>				
		<u>PREAMBLES FOR TRADES</u>				
		The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of descriptions of items fully described in the said Model Preambles will be entertained. Supplementary preambles are incorporated in these bills of quantities where necessary to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles. The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles. NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to be a fixed price for the duration of this project.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Work executed by direct contractors</u>				
		Work to be executed by direct contractors will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required				
		<u>Profit</u>				
		Where stated, the contractor may allow for profit if required				
		<u>General attendance upon selected sub-contractors and direct contractors</u>				
		The item "Allow for general attendance" which follows each provisional sum for selected sub-contractors and direct contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors and direct contractors, the following, but not limited to:				
		1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the contractor				
		2. The provision of an area for the sub-contractor to establish temporary office accommodation and workshops and for the storage of plant and materials				
		3. Making good in all trades and cleaning down and removal of rubbish on completion				
		4. The use of erected scaffolding belonging to the contractor, in common with others having the like right, while it remains erected on site				
		5. The use, at reasonable times by arrangement, of the contractor's erected hoisting equipment				
		6. The provision of water and lighting and of power to a point within 50 metres of the place where the subcontract work is to be carried out				
		7. Unloading, storing, placing in position, providing special power supplies, specific hoisting, craning and scaffolding requirements, provision of temporary casing and/or other specific protection of works, special security and clearing away rubbish and the like				
		<u>Taking delivery</u>				
		Taking delivery of goods or articles by the contractor on site shall mean getting in, unpacking, checking that the quantity is correct and that the goods are complete and undamaged, submitting a report thereof to the interested parties and issuing vouchers for the receipt of such goods. The contractor shall store the goods and will be held responsible for the safety thereof and indemnify the employer against any damage or loss which may occur				
		<u>Preliminaries</u>				
		The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"				
		Clause 12.1.21The contractor is herewith informed that no scaffolding is separately measured and scaffolding should be included in the bill rates where applicable				
		<u>STEEL RACKING AND SHELVING</u>				
1		Provide the provisional sum of R2 673 000,00 (Two Million Six Hundred and Seventy Three Thousand Rand) for supply and installation of steel racking and shelving	Item	1	2 673 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
4		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for sundry builders work	Item	1	100 000,00	
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
5		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for access controlled gate	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 2				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - BUILDING 1 & 4 - WAREHOUSE		Page No		
1		ALTERATIONS	Page	4		
2		EARTHWORKS	Page	6		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	8		
4		MASONRY	Page	9		
5		WATERPROOFING	Page	10		
6		ROOF COVERINGS	Page	11		
7		CARPENTRY AND JOINERY	Page	12		
8		CEILLINGS, PARTITIONS AND ACCESS FLOORING	Page	14		
9		IRONMONGERY	Page	16		
10		STRUCTURAL STEELWORK	Page	17		
11		METALWORK	Page	19		
12		PLASTERING	Page	20		
13		TILING	Page	21		
14		PLUMBING AND DRAINAGE	Page	24		
15		GLAZING	Page	25		
16		PAINTWORK	Page	26		
17		PROVISIONAL SUMS	Page	28		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION THREE : BUILDING NO 2 - CHEMICAL STORE</u>				
		<u>BILL NO. 1 : ALTERATIONS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>General</u>				
		Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
		The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u>				
		Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately				
		Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u>				
		Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u>				
		Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides				
		Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork				
		<u>Protection</u>				
		The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		<u>HOARDING, ETC</u>				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		<u>REMOVAL OF EXISTING WORK</u>				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
		<u>Breaking up and removing reinforced concrete</u>				
2		Surface beds	m3	56		
3		Slabs	m3	18		
		<u>Breaking down and removing brickwork etc</u>				
4		One brick walls	m2	215		
		<u>Taking out and removing pressed steel door frames and steel/timber doors including repairs to brickwork and preparation thereof to receive new frames</u>				
5		Steel single door and frame not exceeding 2,5m2	No	2		
6		Steel window not exceeding 2,5m2	No	2		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
7		Steel roller shutter doors 3 x 3m high	No	3		
		<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
8		Pitched corrugated sheet steel covering, ceilings and cornices, eaves soffit covering, fascias, barge boards, gutters and rainwater pipes	m2	248		
9		Corrugated sheet steel side cladding	m2	223		
		<u>REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.</u>				
10		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	120		
		<u>SERVICES ALTERATIONS</u>				
11		Provide the budgetary allowance of R10 000,00 (Ten Thousand Rand) for the careful disconnection of existing plumbing services reticulation, and make safe as per the engineers requirements, remove existing sanitary fittings, etc including disconnecting piping from fittings	Item	1	10 000,00	
12		Provide the budgetary allowance of R10 000,00 (Ten Thousand Rand) for the careful disconnection of existing electrical reticulation, and make safe as per the engineers requirements, remove existing light fittings, etc including disconnecting cables from all fittings	Item	1	10 000,00	
13		Provide the budgetary allowance of R10 000,00 (Ten Thousand Rand) for the careful disconnection of all existing mechanical reticulation, including removing all existing hvac fittings, fire fittings, etc. and make safe for demolition works	Item	1	10 000,00	
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : EARTHWORKS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Contour drawings:</u>				
		The following quantities have been computed from the dimensions and contours shown on the drawing.				
		Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced.				
		<u>Transport of earthworks:</u>				
		The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to:(i) All material excavated on site and used for filling on site.(ii) All material excavated on site and stockpiled on site.				
		<u>Notice:</u>				
		The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation				
		<u>Rates:</u>				
		Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this.				
		<u>Computation of quantities:</u>				
		Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required.				
		<u>Taking and testing of samples:</u>				
		The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification.				
		Prices for filling are to include for all necessary density tests with SABS 1200D				
		The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect.				
		Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense.				
		<u>Carting away of excavated material:</u>				
		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.				
		<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
		<u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Reducing levels under floors	m3	141		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
2		Soft rock.	m3	14		
3		Hard rock.	m3	7		
		<u>Extra over excavations for carting away.</u>				
4		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	141		
		<u>Keeping excavations free of water:</u>				
5		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		<u>FILLING, ETC.</u>				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
6		In 150mm thick layers in backfilling under surface beds	m3	28		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
7		Under surface beds, holes, etc.	m3	113		
		<u>Compaction of surfaces:</u>				
8		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	188		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ☐ To be applied by a certified pest control contractor. ☐ Not when soil is excessively wet. ☐ Do not disturb treated surface. ☐ Do not bury scraps of timber in ground fill. ☐ Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
9		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	188		
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Cost of tests:</u>				
		The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).				
		<u>Formwork:</u>				
		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.				
		The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.				
		Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.				
		Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.				
		<u>CONCRETE</u>				
		<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>30MPa/19mm Concrete in:</u>				
1		Surface beds cast in panels on waterproofing.	m3	56		
		<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>				
		<u>30MPa/19mm Concrete in:</u>				
2		Slabs, cantilever slabs, including beams and inverted beams.	m3	6		
3		Stairs including landings, beams and inverted beams.	m3	2		
		<u>Test blocks:</u>				
4		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	13		
		<u>CONCRETE SUNDRIES</u>				
		<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>				
5		Surface beds laid in panels.	m2	188		
6		Slabs.	m2	69		
		<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Rough formwork to sides of:</u>				
7		Sloping and stepped outer edges of stairs not exceeding 300mm high extreme.	m	3		
8		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	29		
		<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Smooth formwork to soffits of:</u>				
9		Slabs exceeding 250mm and not exceeding 500mm thick, propped up exceeding 3.5m and not exceeding 5m above bearing capacity.	m2	69		
10		Sloping soffits of stairs exceeding 250mm and not exceeding 500mm thick, propped up exceeding 3.5m and not exceeding 5m above bearing capacity.	m2	5		
		<u>Extra on smooth formwork for boxing in to form:</u>				
11		25 x 25mm Horizontal chamfer to corner of beams.	m	13		
		<u>MOVEMENT JOINTS, ETC.</u>				
		<u>10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint filler and backing strip between concrete surface bed and walls or kerbs:</u>				
12		Not exceeding 300mm high to edges of surface beds.	m	34		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Saw-cut joints:</u>				
13		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	6		
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
14		Surface beds, slabs, etc. not exceeding 300mm thick.	m	6		
		<u>REINFORCEMENT</u>				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
15		Reinforcement bars in various diameters.	t	5		
		<u>Fabric reinforcement:</u>				
16		Type 617 fabric reinforcement in concrete surface beds, slabs, etc.	m2	72		
17		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	116		
		<u>High tensile steel dowel bars</u>				
18		20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve with end cap including hole through formwork	No	12		
		<u>BUDGETARY ALLOWANCES</u>				
19		Provide the budgetary allowance of R120 000,00 (One Hundred and Twenty Thousand Rand) for ramp refurbishment	Item	1	120 000,00	
20		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for rib-n-block slab complete	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : MASONRY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
1		350mm Thick cavity of two half brick skins	m2	10		
		<u>BRICKWORK SUNDRIES</u>				
		<u>Brickwork reinforcement:</u>				
2		75mm Wide reinforcement built in horizontally.	m	81		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
3		Extra over brickwork for face brickwork in stretcher bond	m2	20		
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : WATERPROOFING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMPPROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions:</u>				
1		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	188		
		<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC.</u>				
		The Contractor shall allow in his rates for testing the waterproofing for water tightness by ponding the waterproofed surfaces for a period of at least 48 hours before application of the protection layer. Should any leaks occur the contractor shall remedy them at his own expense. Waterproofing to be installed by an approved Derbigum Contractor under a ten-year insurance backed guarantee.				
		<u>Two coats 'Brixal' bituminous paint</u>				
2		On waterproofing to backs/inside of cavity walls	m2	10		
Carried Forward to Summary of Section No. 3						

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : ROOF COVERINGS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Straight cutting</u>				
		Descriptions of all roof coverings are deemed to include for all straight cutting.				
		<u>Profiled fibre-cement sheeting and accessories</u>				
		Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.				
		"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.				
		<u>Guarantees:</u>				
		"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor. A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."				
		<u>PROFILED METAL SHEETING AND ACCESSORIES</u>				
		<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure, All to Structural Engineer's Detail and Specifications.</u>				
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	248		
2		Canopy roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	8		
3		Side cladding fixed to steel girts (girts elsewhere measured).	m2	197		
4		Ridge or hip flashing	m	16		
5		Headwall flashing	m	4		
6		Drip flashing	m	60		
7		Extra over roof covering for bullnose between roof sheeting and side cladding	m	32		
8		Circular cutting	m	9		
		<u>Galvanised continuous roll formed corrugated "IBR" Translucent Sheetings Or Similar Approved Concealed Fixing Roof Covering, fixed onto to HDGM steel Roof Sub-structure & Portal Frame Structure. All to Structural Engineer's Detail and Specifications.</u>				
9		Side cladding	m2	26		
10		Circular cutting	m	9		
		<u>ROOF INSULATION</u>				
		<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions.</u>				
11		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	445		
Carried Forward to Summary of Section No. 3						

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : CARPENTRY AND JOINERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at maximum 600mm centres, and where described as "bolted" the bolts have been given elsewhere				
		<u>Decorative thermosetting plastic laminate covering</u>				
		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
		Decorative laminate finishes shall be glued under pressure				
		<u>Hardwoods</u>				
		All hardwoods shall be specially selected, well seasoned, free from sapwood and kiln dried. Meranti shall be red or medium brown meranti, even in grain and colour				
		<u>Sealing of all abutments</u>				
		All cupboards, counter tops, shelves, etc. abutting walls, tiled surfaces, etc. to be sealed watertight with an approved silicon sealant along all joints				
		<u>DOORS, ETC</u>				
		<u>Fire doors with hardwood veneer</u>				
1		2 Hour fire-rated ASSA ABLOY door (FA), 1,070 x 2,400mm high including suitable pressed steel frame and complete with ironmongery (mechanical lock and a security cylinder) and preparing frame for door closers	No	2		
		<u>JOINERY FITTINGS</u>				
2		Provide the budgetary allowance of R80 000,00 (Eighty Thousand Rand) for the supply and installation of joinery fittings	Item	1	80 000,00	
		Carried Forward to Summary of Section No. 3				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 8 : FLOOR COVERINGS, ETC</u>				
		<u>FLOOR COVERINGS, WALL LININGS, ETC</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc				
		Prices to include for any self-levelling compound that may be needed by the firm of specialists to level out uneven screeds				
		<u>FLOOR COVERINGS</u>				
		<u>Approved seamless rubber flooring on screeded floors (screeds elsewhere)</u>				
1		On floors	m2	257		
2		On treads 280mm wide	m	15		
3		On risers 170mm high	m	16		
		<u>POLISH, SEALERS, ETC</u>				
		<u>Strip and rinse floor with approved chemicals and seal with three coats wax sealer, all in accordance with the manufacturer's instructions</u>				
4		On rubber flooring	m2	264		
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 9 : IRONMONGERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Proprietary items</u>				
		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items. Rates are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc clarifying the features of the products/articles offered. On request returnable samples are to be provided to the project manager for consideration.				
		<u>Finishes to ironmongery</u>				
		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD SandedNP Nickel plated				
		<u>LOCKS</u>				
		<u>"Geze" or similar approved</u>				
		"HA2960SR" panic latch complete with cross bars fixed to timber	No	2		
		<u>DOOR CLOSERS</u>				
		<u>"Geze"</u>				
1		"AZ2001SR TS2000VP" DCL door closer with parallel arm bracket SR fixed to metal	No	2		
		<u>LETTERS, NAME PLATES, ETC</u>				
		<u>Manufactured by "Geze"</u>				
2		"079/160E/RM" 160 x 160 x 1,2mm stainless steel plate with a running man symbol	No	2		
		<u>SHOWER CUBICLE</u>				
3		Provide the budgetary allowance of R8 000,00 (Eight Thousand Rand) for the supply and installation of shower cubicle	Item	1	8 000,00	
		Carried Forward to Summary of Section No. 3				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 10 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Structural steelwork				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings.				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids.				
		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 and concrete.				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
		<u>THE FOLLOWING IN 1 CANOPY</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded beams in single lengths, welded to steel columns</u>				
1		IPE 180 x 91mm x 19kg/m rafters	t	0,10		
		<u>Bolts to trusses etc</u>				
2		8 x M20 Bolt and Nuts	No	16		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
3		100 x 50 x 20 x 3mm Lipped channel section purlins welded or bolted to brackets	t	0,08		
4		60mm Diameter x 5mm circular hollow section stays	t	0,05		
		<u>PAINTWORK</u>				
		Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascoatuff 3500 patch primer, one coat PlascoGuard 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane.				
5		On structural steel members	t	0,25		
6		Re-paint existing structural steel members	t	12		
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 11 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Descriptions of bolts, anchors, etc</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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work:1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process				
		4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>STEEL HANDRAILS, BALUSTRADES, ETC</u>				
		<u>Welded hot-dipped galvanised steel handrails to stairs, etc.</u>				
1		60 x 40mm Raking rectangular section handrail with support pins grouted into brick walls	m	3		
		<u>Welded hot-dipped galvanised steel balustrading to walkways, stairs, etc.</u>				
2		Balustrading 1000mm high, formed of 50 x 50 x 2.5mm thick hollow section top and bottom rails, 50 x 50 x 2.5mm thick hollow section stanchions at 2000mm centres with 100 x 100 x 5mm baseplate welded on, four times holed for bolts, the balustrading filled in with 12 x 12mm solid section vertical rails at maximum 100mm centres, all open ends of hollow sections closed up with 3mm thick plate and each stanchion to be secured to brickwork or concrete with four M10 x 75mm anchor bolts	m	13		
3		Raking balustrading 1000mm high, formed of 50 x 50 x 2.5mm thick hollow section top and bottom rails, 50 x 50 x 2.5mm thick hollow section stanchions at 2000mm centres with 100 x 100 x 5mm baseplate welded on, four times holed for bolts, the balustrading filled in with 12 x 12mm solid section vertical rails at maximum 100mm centres, all open ends of hollow sections closed up with 3mm thick plate and each stanchion to be secured to brickwork or concrete with four M10 x 75mm anchor bolts	m	3		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>ALUMINIUM WINDOWS</u>				
		<u>Natural anodised aluminium windows glazed with 6.38mm clear PVB laminated safety glass as per "AAAMSA" regulations and SANS 10400-N, complete with subframes, ironmongery, glass, sealing, etc and fixing to brickwork or concrete</u>				
4		Window suitable for opening 1430 x 600mm high overall	No	1		
		<u>GALVANISED STEEL ROLLER SHUTTERS ETC</u>				
		<u>Automated high light industrial zincalume roller shutters fixed to brickwork or concrete</u>				
5		Roller shutter for 2900 x 3000mm high opening	No	1		
6		Roller shutter for 3000 x 3000mm high opening	No	2		
		<u>CLEARVU FENCING</u>				
		High security "Clearvu" invisible type cut resistant strengthened welded mesh panel fencing system comprising 2,4m high x approximately 3m wide panels in minimum 3mm diameter vertical and horizontal wires with approximately 76,2 x 12,7mm aperture size and four anti-climb V- or similar shaped panel horizontal bends, standard security type posts minimum 7m long at 3m centres complete with 400 x 400 x 600mm deep class 15 MPa reinforced concrete post bases in ground with all components and spike rails with ribbed/flared spikes securely fixed along top of fencing and gates fully galvanized	m	9		
		Sliding gate 1,6m wide x 2,4m high to match high security fencing system with approximately 76,2 x 12,7mm aperture size welded mesh panels complete with steel framing, bracing, mesh panel covering, posts, rails, guide posts, rollers, guides and guide wheels, locking system, concrete foundation or footing for rails etc, fully galvanized	No	1		
		<u>BUDGETARY ALLOWANCES</u>				
9		Provide the budgetary allowance of R50 000,00 (Fifty Thousand Rand) for burglar bars	Item	1	50 000,00	
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 12 : PLUMBING AND DRAINAGE</u> <u>PREAMBLES</u> The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition). <u>SUPPLEMENTARY PREAMBLES</u> Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill. <u>Concrete pipes:</u> Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings <u>uPVC pipes and fittings:</u> Soil, waste and vent pipes and fittings shall be solvent weld jointed <u>uPVC pressure pipes and fittings:</u> Pipes for water supply shall be of the class stated Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings <u>Copper pipes:</u> Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground <u>Fixing of pipes</u> Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level <u>Reducing fittings</u> Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained <u>Wire gratings</u> Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings <u>Exposed concrete surfaces</u> Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster <u>Excavations</u> No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling "Soft rock" and "hard rock" shall be as defined in "Earthworks" <u>Laying, backfilling, bedding, etc. of pipes</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding <u>Flush pans</u> Flush pans shall have straight or side outlets and "P" or "S" traps as necessary <u>Stainless steel basins, sinks, wash troughs, urinals, etc.</u> Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable <u>Waste unions</u> Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings <u>Steel sectional water tanks</u> Tanks shall comply with SABS CKS 114				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Petrolatum anti-corrosion tape</u>				
		Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described				
		Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc				
		<u>As-built drawings</u>				
		Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the project manager for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)				
		<u>SANITARY FITTINGS</u>				
		<u>Stainless steel</u>				
1		"Terrysafe Spill Doctor Model TSSSB100" stainless steel wall mounted eye wash	No	4		
		<u>WASTE UNIONS ETC</u>				
2		38mm Bath or sink waste union	No	4		
		<u>TRAPS ETC</u>				
3		Traps, etc including joints to steel pipe and/or fittings unless otherwise described		0		
		<u>Brass</u>				
4		"Grohe Dawn COB-373SQ" chrome shower trap including grating	No	4		
		<u>CP</u>				
5		32mm CP bottle trap	No	4		
		<u>TAPS, VALVES, ETC</u>				
6		15mm CP angle regulating valve	No	8		
7		"Grohe Dawn GRO-27644001" tempesta chrome 100 shower rail set, and "Grohe Dawn COBFSAOEGN-oGT01 50" chrome wall outlet	No	4		
8		"Grohe Dawn COB-FC-970" chrome sink mixer	No	4		
9		15mm 200 x 200 x 2mm square CP polymer shower head	No	4		
10		400mm Tubular shower arm	No	4		
11		15mm Single lever undertile bath/shower diverter mixer	No	4		
		<u>SANITARY PLUMBING</u>				
		<u>uPVC pipes</u>				
12		50mm Pipes	m	200		
		<u>Extra over uPVC pipes for fittings</u>				
13		50mm Bend	No	50		
14		50mm Access bend	No	70		
		<u>Sundries</u>				
15		Testing waste pipe system	Item	1		
		<u>WATER SUPPLIES</u>				
		<u>Class 1 copper pipes</u>				
16		15mm Pipes	m	200		
17		22mm Pipes	m	140		
		<u>Extra over class 1 copper pipes for capillary fittings</u>				
18		15mm Fittings	No	100		
19		22mm Fittings	No	50		
		<u>Copper overflow and service pipes</u>				
20		15mm Service pipe 350mm girth	No	6		
		<u>TESTING</u>				
21		Testing water pipe system	Item	1		
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO.13 : PAINTWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		All paint applications are to be in strict accordance with the Manufacturers' specification.				
		<u>ON POWERFLOATED CONCRETE SURFACES</u>				
		<u>Prepare surface and prime with Vuka Crete Primer at 4m2/L then install Vuka Crete HD water based polyurethane compound 9mm thick in strict accordance with the technical data obtainable from Vuka Floors. All work to be done by Vuka Floors approved applicators.</u>				
1		On powerfloated floors	m2	257		
		<u>5mm thick X 75mm high skirting with 50mm coved radius using Flowcrete F1 Coving Motar sealed with Flowfresh Coating</u>				
2		On skirting	m	76		
		<u>PLASCON OR SIMILAR APPROVED:</u>				
		<u>ON INTERNAL; CEMENT PLASTER, RHINOLITE AND CONCRETE WALLS:</u>				
		<u>One undercoat and two coats chemical resistant paint Colour to approval:</u>				
3		On powerfloated floors	m2	257		
4		On facebrick walls.	m2	240		
5		On soffits	m2	69		
		<u>ON EXTERNAL CEMENT PLASTERED AND CONCRETE WALLS.</u>				
		<u>Ensure that surfaces are dry, sound and clean and apply one coat "Plascon Professional Gypsum & Plaster Primer (PP700)" and two finishing coats "Plascon Professional Superior Low Sheen (PEM 1000/TLS)"</u>				
6		On facebrick walls.	m2	52		
		<u>ON METAL SURFACES</u>				
		<u>Prepare surfaces and apply one coat 'Professional Plascoprime 170 Zinc Phosphate Primer (UC 170)' and two coats Professional Gloss Enamel PSB 800 / TGE tint range.</u>				
7		On door frames	m2	5		
8		On balustrades (both sides measured)	m2	36		
9		On rails, bars, etc., not exceeding 300mm girth	m	3		
		<u>ON WOOD</u>				
		<u>Sand down smooth and prepare for 2 coats silkwood varnish colour by Architect. (FLB doors)</u>				
10		On doors.	m2	11		
		<u>BUDGETARY ALLOWANCES</u>				
11		Provide the budgetary allowance of R200 000,00 (Two Hundred Thousand Rand) for external wall claddings	Item	1	200 000,00	
Carried Forward to Summary of Section No. 3						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 14 : PROVISIONAL SUMS</u>				
		<u>PREAMBLES FOR TRADES</u>				
		The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of descriptions of items fully described in the said Model Preambles will be entertained. Supplementary preambles are incorporated in these bills of quantities where necessary to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles. The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles. NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to be a fixed price for the duration of this project.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Work executed by direct contractors</u>				
		Work to be executed by direct contractors will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required				
		<u>Profit</u>				
		Where stated, the contractor may allow for profit if required				
		<u>General attendance upon selected sub-contractors and direct contractors</u>				
		The item "Allow for general attendance" which follows each provisional sum for selected sub-contractors and direct contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors and direct contractors, the following, but not limited to:				
		1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the contractor				
		2. The provision of an area for the sub-contractor to establish temporary office accommodation and workshops and for the storage of plant and materials				
		3. Making good in all trades and cleaning down and removal of rubbish on completion				
		4. The use of erected scaffolding belonging to the contractor, in common with others having the like right, while it remains erected on site				
		5. The use, at reasonable times by arrangement, of the contractor's erected hoisting equipment				
		6. The provision of water and lighting and of power to a point within 50 metres of the place where the subcontract work is to be carried out				
		7. Unloading, storing, placing in position, providing special power supplies, specific hoisting, craning and scaffolding requirements, provision of temporary casing and/or other specific protection of works, special security and clearing away rubbish and the like				
		<u>Taking delivery</u>				
		Taking delivery of goods or articles by the contractor on site shall mean getting in, unpacking, checking that the quantity is correct and that the goods are complete and undamaged, submitting a report thereof to the interested parties and issuing vouchers for the receipt of such goods. The contractor shall store the goods and will be held responsible for the safety thereof and indemnify the employer against any damage or loss which may occur				
		<u>Preliminaries</u>				
		The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"				
		Clause 12.1.21The contractor is herewith informed that no scaffolding is separately measured and scaffolding should be included in the bill rates where applicable				
		<u>STEEL RACKING AND SHELVING</u>				
1		Provide the provisional sum of R500 000,00 (Five Hundred Thousand Rand) for supply and installation of steel racking and shelving	Item	1	500 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
4		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for sundry builders work	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 3				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - BUILDING 2 - CHEMICAL STORE		Page No		
1		ALTERATIONS	Page	31		
2		EARTHWORKS	Page	33		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	35		
4		MASONRY	Page	36		
5		WATERPROOFING	Page	37		
6		ROOF COVERINGS	Page	38		
7		CARPENTRY AND JOINERY	Page	39		
8		FLOOR COVERINGS, PLASTIC LININGS, ETC	Page	40		
9		IRONMONGERY	Page	41		
10		STRUCTURAL STEELWORK	Page	42		
11		METALWORK	Page	44		
12		PLUMBING AND DRAINAGE	Page	46		
13		PAINTWORK	Page	47		
14		PROVISIONAL SUMS	Page	48		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION FOUR : BUILDING 3 - GIBELA OFFICES</u>				
		<u>BILL NO. 1 : ALTERATIONS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>General</u>				
		Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
		The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u>				
		Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately				
		Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u>				
		Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u>				
		Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides				
		Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork				
		<u>Protection</u>				
		The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		<u>HOARDING, ETC</u>				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		<u>REMOVAL OF EXISTING WORK</u>				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
		<u>Breaking up and removing reinforced concrete</u>				
2		Surface beds	m3	102		
3		Slabs	m3	58		
		<u>Breaking down and removing brickwork etc</u>				
4		Half brick walls	m2	300		
5		One brick walls	m2	416		
		<u>Taking out and removing pressed steel door frames and steel/timber doors including repairs to brickwork and preparation thereof to receive new frames</u>				
6		Steel single door and frame not exceeding 2,5m2	No	6		
7		Steel window not exceeding 2,5m2	No	6		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
8		Steel roller shutter doors 3 x 3m high	No	1		
		<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
9		Pitched corrugated sheet steel covering, ceilings and cornices, eaves soffit covering, fascias, barge boards, gutters and rainwater pipes	m2	399		
10		Corrugated sheet steel side cladding	m2	734		
11		Removal of floor tiles complete including making good screeds	m2	341		
12		Removal of carpet tiles complete including making good screeds	m2	272		
13		Removal of wall tiles complete including making good plaster	m2	195		
		<u>REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.</u>				
14		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	350		
		<u>SERVICES ALTERATIONS</u>				
15		Provide the budgetary allowance of R20 000,00 (Twenty Thousand Rand) for the careful disconnection of existing plumbing services reticulation, and make safe as per the engineers requirements, remove existing sanitary fittings, etc including disconnecting piping from fittings	Item	1	20 000,00	
16		Provide the budgetary allowance of R20 000,00 (Twenty Thousand Rand) for the careful disconnection of existing electrical reticulation, and make safe as per the engineers requirements, remove existing light fittings, etc including disconnecting cables from all fittings	Item	1	20 000,00	
17		Provide the budgetary allowance of R20 000,00 (Twenty Thousand Rand) for the careful disconnection of all existing mechanical reticulation, including removing all existing hvac fittings, fire fittings, etc. and make safe for demolition works	Item	1	20 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : EARTHWORKS</u> <u>PREAMBLES</u> The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition). <u>SUPPLEMENTARY PREAMBLES</u> <u>Contour drawings:</u> The following quantities have been computed from the dimensions and contours shown on the drawing. Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced. <u>Transport of earthworks:</u> The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to:(i) All material excavated on site and used for filling on site.(ii) All material excavated on site and stockpiled on site. <u>Notice:</u> The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation <u>Rates:</u> Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this. <u>Computation of quantities:</u> Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required. <u>Taking and testing of samples:</u> The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification. Prices for filling are to include for all necessary density tests with SABS 1200D The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect. Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense. <u>Carting away of excavated material:</u> 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. <u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u> <u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u> <u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Trenches	m3	26		
2		Holes	m3	60		
3		Reducing levels under floors	m3	256		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
4		Soft rock.	m3	34		
5		Hard rock.	m3	17		
		<u>Extra over excavations for carting away.</u>				
6		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	285		
		<u>Risk of collapse of excavations:</u>				
7		Sides of trench and hole excavations not exceeding 1,5m deep.	m2	216		
		<u>Keeping excavations free of water:</u>				
8		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>FILLING, ETC.</u>				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
9		In 150mm thick layers in backfilling under surface beds	m3	102		
10		In 150mm thick layers in backfilling to trenches and holes	m3	13		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
11		Under surface beds, holes, etc.	m3	153		
		<u>Compaction of surfaces:</u>				
12		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	341		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ±To be applied by a certified pest control contractor. ±Not when soil is excessively wet. ±Do not disturb treated surface. ±Do not bury scraps of timber in ground fill. ±Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
13		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	341		
14		To bottoms and sides of trenches, etc.	m2	301		
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Cost of tests:</u>				
		The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).				
		<u>Formwork:</u>				
		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.				
		The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.				
		Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.				
		Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.				
		<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>15MPa/19mm Concrete in:</u>				
1		Surface blinding under footings and bases.	m3	4		
		<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>30MPa/19mm Concrete in:</u>				
2		Strip footings.	m3	6		
3		Column bases	m3	18		
4		Surface beds cast in panels on waterproofing.	m3	102		
		<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>				
		<u>30MPa/19mm Concrete in:</u>				
5		Slabs, cantilever slabs, including beams and inverted beams.	m3	20		
6		Beams	m3	9		
7		Stairs including landings, beams and inverted beams.	m3	4		
8		Columns in foundations.	m3	1		
9		Columns.	m3	7		
		<u>Test blocks:</u>				
10		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	35		
		<u>CONCRETE SUNDRIES</u>				
		<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>				
11		Surface beds laid in panels.	m2	341		
12		Slabs.	m2	230		
		<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Rough formwork to sides of:</u>				
13		Edges, risers, ends and reveals exceeding 300mm high or wide.	m2	2		
14		Sloping and stepped outer edges of stairs not exceeding 300mm high extreme.	m	13		
15		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	255		
		<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Smooth formwork to sides of:</u>				
16		Rectangular columns, not exceeding 3.5m in height above bearing capacity.	m2	111		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Smooth formwork to sides and soffits of:</u>				
17		Beams with total height exceeding 3,5m and not exceeding 5m above bearing capacity.	m2	93		
		<u>Smooth formwork to soffits of:</u>				
18		Slabs exceeding 250mm and not exceeding 500mm thick, propped up exceeding 3.5m and not exceeding 5m above bearing capacity.	m2	230		
19		Sloping soffits of stairs exceeding 250mm and not exceeding 500mm thick, propped up exceeding 3,5m and not exceeding 5m above bearing capacity.	m2	10		
		<u>Extra on smooth formwork for boxing in to form:</u>				
20		25 x 25mm Vertical chamfer to corner of columns.	m	379		
21		25 x 25mm Horizontal chamfer to corner of beams.	m	212		
		<u>MOVEMENT JOINTS, ETC.</u>				
		<u>2 Layers of 4ply "Malthoid" slip joints between horizontal concrete and brick surfaces including cement mortar bed</u>				
22		Not exceeding 300mm wide	m	130		
		<u>10mm Thick isolation joint with and including backing strip between concrete surface bed and walls or kerbs:</u>				
		<u>10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint filler and backing strip between concrete surface bed and walls or kerbs:</u>				
23		Not exceeding 300mm high to edges of surface beds.	m	148		
		<u>Saw-cut joints:</u>				
24		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	325		
		<u>Horizontal construction (toggle) joints through concrete including thick cement slurry to one face.</u>				
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
25		Surface beds, slabs, etc. not exceeding 300mm thick.	m	163		
		<u>REINFORCEMENT</u>				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
26		Reinforcement bars in various diameters.	t	25		
		<u>High tensile steel dowel bars</u>				
27		20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve eith end cap including hole through formwork	No	330		
		<u>Fabric reinforcement:</u>				
28		Type 245 fabric reinforcement in concrete surface beds, slabs, etc.	m2	341		
29		Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m2	224		
		<u>CORE DRILLING</u>				
		<u>Core drilling hole 125mm diameter through</u>				
30		255mm Thick reinforced concrete slab	No	10		
		<u>BUDGETARY ALLOWANCES</u>				
31		Provide the budgetary allowance of R350 000,00 (Three Hundred and Fifty Thousand Rand) for rib-n-block slab complete	Item	1	350 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : MASONRY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN FOUNDATIONS</u>				
		<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>				
1		One brick walls	m2	26		
2		350mm Thick cavity of two half brick skins	m2	9		
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
3		Half brick walls.	m2	76		
4		One brick walls.	m2	128		
5		350mm Thick cavity of two half brick skins	m2	27		
		<u>BRICKWORK SUNDRIES</u>				
		<u>Brickwork reinforcement:</u>				
6		75mm Wide reinforcement built in horizontally.	m	629		
7		150mm Wide reinforcement built in horizontally.	m	712		
		<u>'Fabcon' prestressed fabricated lintels including necessary supports.</u>				
8		102 x 75mm Lintels in lengths not exceeding 3m.	m	20		
		<u>Galvanised wire ties, etc.</u>				
9		4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and the other end fixed to timber.	No	200		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
10		Extra over brickwork for face brickwork in stretcher bond	m2	27		
11		Extra over brickwork for face brickwork in stretcher bond in foundations	m2	9		
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : WATERPROOFING</u> <u>PREAMBLES</u> <u>The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Waterproofing:</u> 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. <u>Joint sealants:</u> The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish. <u>DAMPPROOFING OF WALLS AND FLOORS</u> <u>One layer of 375 micron 'Consol Plastics Brickgrip DPC' embossed damp proof course sealed at all edges, laid and joint in strict accordance with the manufacturer's instructions.</u>				
1		Laid horizontally and built under walls, cills, etc. <u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions.</u>	m2	7		
2		Laid on filling to receive concrete surface bed and maintaining in position during concreting. <u>JOINT SEALANTS, ETC.</u> <u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE'. Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for no porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>	m2	341		
3		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	325		
4		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	311		
Carried Forward to Summary of Section No. 4						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : ROOF COVERINGS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Straight cutting</u>				
		Descriptions of all roof coverings are deemed to include for all straight cutting.				
		<u>Profiled fibre-cement sheeting and accessories</u>				
		Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.				
		"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.				
		<u>Guarantees:</u>				
		"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor. A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."				
		<u>PROFILED METAL SHEETING AND ACCESSORIES</u>				
		<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure, All to Structural Engineer's Detail and Specifications.</u>				
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	399		
2		Canopy roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	10		
3		Side cladding fixed to steel girts (girts elsewhere measured).	m2	656		
4		Ridge or hip flashing	m	24		
5		Drip flashing	m	78		
6		Edge / corner flashings	m	128		
7		Extra over roof covering for bullnose between roof sheeting and side cladding	m	48		
8		Circular cutting	m	9		
		<u>Galvanised continuous roll formed corrugated "IBR" Translucent Sheetings Or Similar Approved Concealed Fixing Roof Covering, fixed onto to HDGM steel Roof Sub-structure & Portal Frame Structure. All to Structural Engineer's Detail and Specifications.</u>				
9		Side cladding	m2	78		
10		Sidewall flashing	m	54		
11		Circular cutting	m	27		
		<u>ROOF INSULATION</u>				
		<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions:</u>				
12		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	1 055		
		Carried Forward to Summary of Section No. 4				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : CARPENTRY AND JOINERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at maximum 600mm centres, and where described as "bolted" the bolts have been given elsewhere				
		<u>Decorative thermosetting plastic laminate covering</u>				
		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
		Decorative laminate finishes shall be glued under pressure				
		<u>Hardwoods</u>				
		All hardwoods shall be specially selected, well seasoned, free from sapwood and kiln dried. Meranti shall be red or medium brown meranti, even in grain and colour				
		<u>Sealing of all abutments</u>				
		All cupboards, counter tops, shelves, etc. abutting walls, tiled surfaces, etc. to be sealed watertight with an approved silicon sealant along all joints				
		<u>STAIRCASES</u>				
		<u>Wrought meranti</u>				
1		50mm Thick landing bolted to steel	m2	4		
2		50 x 250mm Treads bolted to steel	m	28		
		<u>SKIRTINGS</u>				
		<u>Wrought hardwood</u>				
3		20 x 100mm Skirting including 19mm quarter round nailed	m	178		
		<u>DOORS, ETC</u>				
		<u>Wrought meranti doors, hung to steel frames</u>				
4		40mm Framed slatted door 813 x 2135mm high of 40 x 150mm top rail and stiles, 18 x 150mm middle ledge and braces and 40 x 220mm bottom rail, filled in with 18mm V-jointed one side boarding and covered on other side with 4mm plywood with veneer to match door, let into and including rebates all round	No	15		
		<u>Fire doors with hardwood veneer</u>				
5		2 Hour fire-rated ASSA ABLOY door (FA), 1,070 x 2,400mm high including suitable pressed steel frame and complete with ironmongery (mechanical lock and a security cylinder) and preparing frame for door closers	No	2		
		<u>LOCKERS</u>				
6		Provide the budgetary allowance of R50 000,00 (Fifty Thousand Rand) for the supply and installation of lockers	Item	1	50 000,00	
		<u>BENCHES</u>				
7		Provide the budgetary allowance of R20 000,00 (Twenty Thousand Rand) for the supply and installation of benches	Item	1	20 000,00	
		<u>JOINERY FITTINGS</u>				
8		Provide the budgetary allowance of R600 000,00 (Six Hundred Thousand Rand) for the supply and installation of joinery fittings	Item	1	600 000,00	
		<u>BLINDS</u>				
9		Provide the budgetary allowance of R500 000,00 (Five Hundred Thousand Rand) for supply and installation of blinds	Item	1	500 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 8 : CEILINGS, PARTITIONS AND ACCESS FLOORING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", are deemed to be included.				
		<u>Ceilings</u>				
		Unless otherwise described ceilings shall be deemed to be horizontal				
		<u>Bulkheads</u>				
		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
		<u>Steel components</u>				
		All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121				
		<u>Openings</u>				
		Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc				
		<u>SUSPENDED CEILINGS</u>				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Proprietary suspended ceilings</u>				
		Hangers, suspension grids, "lay-in" panels, etc are to be in accordance with the manufacturers' recommendations				
		Electrical light fittings, diffusers, panels etc are generally "lay-in" units of the same dimensions as the suspension grid described and allowance must be made in the rates accordingly for their support inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof)				
		<u>Supply and install 9mm thick flush plastered ceiling on 3600mm Jumbo main tees at 1200mm centres in one direction and 1200mm Jumbo cross tees at 400mm centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 9 mm Jumbo Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster all installed strict accordance with the manufacturer's instructions.</u>				
1		Ceilings suspended not exceeding 1m below concrete soffits	m2	116		
2		Extra over ceiling for opening for 110mm diameter downlighter.	No	120		
3		Extra over ceiling for 600 x 600mm opening for extraction/air-conditioning diffusers	No	50		
		<u>Supply and install 12mm thick moisture resistant flush plastered ceiling on 3600mm Jumbo main tees at 1200mm centres in one direction and 1200mm Jumbo cross tees at 400mm centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 9 mm Jumbo Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster all installed strict accordance with the manufacturer's instructions.</u>				
4		Ceilings suspended not exceeding 1m below concrete soffits	m2	36		
5		Extra over ceiling for opening for 110mm diameter downlighter.	No	40		
6		Extra over ceiling for 150mm -200mm diameter opening for extraction.	No	10		
		Carried Forward				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Supply & fit 600 x 600 x 15mm AMF Thermax Star acoustic ceiling tiles on Pelican Systems JUMBO MR ceiling system with 12mm thick tapered edge plasterboard fixed at right angles to 35mm JUMBO galvanised steel system, main tees at 1200mm and cross tees at 500mm centres, using 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster and prepared for decoration, all in accordance with the manufacturer's instructions</u>				
7		Ceilings suspended exceeding 1m and not exceeding 3,5m below concrete soffits	m2	45		
8		Ceilings suspended exceeding 1m and not exceeding 3,5m below steel purlins	m2	187		
9		Extra over ceiling for opening for 600 x 600mm light fitting	No	120		
10		Extra over ceiling for 600 x 600mm opening for air-conditioning diffuser	No	20		
		<u>"Cellulose" insulation</u>				
11		80mm Insulation closely fitted and laid on top of branderling between roof timbers, etc	m2	384		
		BULKHEADS				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Bulkheads shall comprise galvanised steel studding of 63,5mm top and bottom tracks with vertical studs at maximum 400mm centres, pop-riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc., and covered as described with plasterboard screwed to studding with drywall screws at maximum 300mm centres. Boards shall be butt jointed and finished with scrim tape and jointing compound and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer.				
		Descriptions shall be deemed to include any additional studs at ends and intersections, corner beads, cornices at junctions with ceilings, jointing compound, tape, etc.				
		<u>12,5mm thick "Gyproc" gypsum plasterboard bulkheads, installed complete, with standard steel branderling, hung with suspension brackets, the joints covered with proprietary scrim tape and jointing compound, the whole fully skimmed, including expansion joint trimmings, shadow line recesses and corner beads</u>				
12		Horizontal portion of bulkhead, approximately 250mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	4		
13		Horizontal portion of bulkhead, approximately 292mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	8		
14		Horizontal portion of bulkhead, approximately 320mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	2		
15		Horizontal portion of bulkhead, approximately 330mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	5		
16		Horizontal portion of bulkhead, approximately 340mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	17		
17		Horizontal portion of bulkhead, approximately 368mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	10		
18		Horizontal portion of bulkhead, approximately 375mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	6		
19		Horizontal portion of bulkhead, approximately 407mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	3		
20		Horizontal portion of bulkhead, approximately 410mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	9		
21		Horizontal portion of bulkhead, approximately 448mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	10		
22		Horizontal portion of bulkhead, approximately 460mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	1		
23		Horizontal portion of bulkhead, approximately 475mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	33		
24		Horizontal portion of bulkhead, approximately 545mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	10		
25		Horizontal portion of bulkhead, approximately 555mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	21		
26		Horizontal portion of bulkhead, approximately 580mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	m	32		
27		Horizontal portion of bulkhead, approximately 2270 x 2460mm wide, including corner bead embedded in skim coat plaster, fixed to brickwork.	No	1		
28		Vertical portion of bulkhead approximately 150mm high, including corner bead embedded in skim coat plaster, suspended not exceeding 1m below concrete soffit.	m	168		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
29		Vertical portion if bulkhead approximately 769mm high, including corner bead embedded in skim coat plaster, suspended not exceeding 1m below concrete soffit.	m	3		
30		Vertical portion if bulkhead approximately 1600mm high, including corner bead embedded in skim coat plaster, suspended not exceeding 1m below concrete soffit.	m	5		
		<u>Cornices, perimeter trims, etc. to suspended ceilings.</u>				
31		Transition strip pre-painted to approved colour fixed between two types of ceilings	m	168		
32		White powder coated metal shadowline cornice as per "DONN SM25".	m	318		
		PARTITIONING				
		<u>Rhino-Drywall System No 1" steel stud partitioning with "Rhino Wallboard" on both sides, the joints covered with "Gyproc Rhino" scrim tape and 2 layers of "Gyproc Rhinoglide" skim, and the whole surface fully skimmed on both sides, including thermal insulation in the cavity</u>				
33		Partitioning 3769mm high with bottom and top tracks plugged	m	66		
34		Extra over partitioning 3769mm high for corner	No	9		
35		Extra over partitioning 3769mm high for T-intersection	No	9		
36		Extra over partitioning 3769mm high for abutment	No	5		
37		Extra over partitioning 3769mm high for fair end	No	1		
38		Partitioning 3975mm high with bottom and top tracks plugged	m	50		
39		Extra over partitioning 3975mm high for corner	No	4		
40		Extra over partitioning 3975mm high for T-intersection	No	5		
41		Extra over partitioning 3975mm high for abutment	No	23		
		Door openings				
42		Extra over partitioning for opening for door 600 x 1800mm high including aluminium door frame (timber door elsewhere)	No	2		
43		Extra over partitioning for opening for door 813 x 2135mm high including aluminium door frame (timber door elsewhere)	No	12		
44		Extra over partitioning for opening for door 1250 x 2135mm high including aluminium door frame (timber door elsewhere)	No	2		
		TOILET CUBICLE PARTIONING				
		<u>Cubicle Solutions - CODE: CEX 1/304 Manufactured using 12mm compact high pressure laminate (CHPL) Colour code: MAX on Top 074 patel grey, with overhead rail and hanging clamp (CODE: csxc01/304/13) and floor anchored with adjustable supporting feet (CODE: csf01/304/13). All fixings and ironmongery in 304 & 316 grade stainless steel as specified. Ironmongery to include hat and coat hook (CODE: csxhco1/304), indicator bolt (CODE: CSTIN1/316) and rise and fall butt auto close or auto open hinge (CODE: CSTR & F 01/316)</u>				
45		Two cubicles in the male toilets complete	No	1		
46		Two cubicles in the female toilets complete	No	1		
		BUDGETARY ALLOWANCES				
47		Provide the budgetary allowance of R60 000,00 (Sixty Thousand Rand) for acoustic insulation in drywalling	Item	1	60 000,00	
48		Provide the budgetary allowance of R300 000,00 (Three Hundred Thousand Rand) for shopfronts in drywalling	Item	1	300 000,00	
49		Provide the budgetary allowance of R60 000,00 (Sixty Thousand Rand) for frosting of glass partitioning	Item	1	60 000,00	
Carried Forward to Summary of Section No. 4						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 9 : FLOOR COVERINGS, PLASTIC LININGS, ETC</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Fixing</u>				
		Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc				
		<u>GENERAL NOTES TO TENDERERS</u>				
		General notes, described in Bill No. 1, shall equally apply to this Bill.				
		Samples and colours of all products are to be submitted to the architect for approval prior to placing of orders				
		The vinyl sheeting prices below are deemed to include for all preparation, stripping, sealing, etc. required.				
		<u>FLOOR COVERINGS</u>				
		<u>"Belgotex" 500 x 500mm approved textile heavy duty carpet tiles consisting of fibres set out on waterproof vinyl backing laid with approved adhesive to manufacturer's specifications (complying with BS 4790 fire rating, DIN 54324 on wire test and ISO body test at less than 2Kv at 25% RH on static electricity)</u>				
1		On floors	m2	272		
		<u>BUDGETARY ALLOWANCES</u>				
2		Provide the budgetary allowance of R50 000,00 (Fifty Thousand Rand) for anti-static flooring in the electronics warehouse	Item	1	50 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 10 : IRONMONGERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Proprietary items</u>				
		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items. Rates are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc clarifying the features of the products/articles offered. On request returnable samples are to be provided to the project manager for consideration.				
		<u>Finishes to ironmongery</u>				
		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD SandedNP Nickel plated				
		<u>GENERAL NOTES TO TENDERERS</u>				
		General notes, described in Bill No. 1, shall equally apply to this Bill.				
		<u>HINGES, BOLTS, ETC</u>				
		<u>"Geze" or similar approved</u>				
1		"095/76" 100 x 75 x 3mm S.S 2BB hinge	Pairs	26		
		<u>LOCKS</u>				
		<u>"Geze" or similar approved</u>				
2		"742/68" 76mm stainless steel profile cylinder deadlock	No	2		
3		"730/68" 76mm stainless steel profile arch sashlock	No	13		
4		"HA2960SR" panic latch complete with cross bars fixed to timber	No	2		
5		"892-66/78" 5 Pin nickel plated single cylinder 3k	No	2		
6		"880-66/78" 5 Pin nickel plated double cylinder 66mm 3k	No	13		
7		"ED908/CY" stainless steel profiled cylinder escutcheon	No	30		
		<u>HANDLES</u>				
		<u>"Geze"</u>				
8		"EDE101C69" Daytona 19mm / 165 x 165 x 1,5mm pull plate and handle	Pairs	13		
9		"075/160/B" -BT pull handle 111 x 19mm on 160 x 160 x 1,5mm pull plate SS	No	2		
		<u>PUSH PLATES AND KICKING PLATES</u>				
		<u>"Geze"</u>				
10		"079/160" 160 x 160 x 1,6mm Thick Stainless steel push plate	No	2		
11		"080/SPEC" Stainless steel kick plate	No	32		
		<u>DOOR CLOSERS</u>				
		<u>"Geze"</u>				
12		"AZ2001SR TS2000VP" DCL door closer with parallel arm bracket SR fixed to metal	No	3		
13		"AZ4001DA TS4000P" DA DCL door closer complete with standard arm and parallel arm	No	1		
		<u>LETTERS, NAME PLATES, ETC</u>				
		Manufactured by "Geze"				
14		"079/160/E/EM" 160 x 160 x 1,2mm stainless steel plate with a male symbol	No	1		
15		"079/160/E/F" 160 x 160 x 1,2mm stainless steel plate with a female symbol	No	1		
16		"079/160E/RM" 160 x 160 x 1,2mm stainless steel plate with a running man symbol	No	2		
		<u>SUNDRIES</u>				
		<u>"Geze" or similar approved</u>				
17		"140/83" floor mounted doorstop "M140 SACR"	No	15		
		Carried Forward				

Carried Forward to Summary of Section No. 4

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 11 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Structural steelwork				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings.				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids.				
		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 and concrete.				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
		<u>THE FOLLOWING IN 1 ENTRANCE CANOPY STRUCTURE</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded beams in single lengths, welded to steel columns.</u>				
1		IPE 180 x 91mm x 19kg/m columns	t	0,38		
2		IPE 180 x 91mm x 19kg/m beams	t	0,24		
		<u>Bolts to trusses etc</u>				
3		8 x M20 Bolt and Nuts	No	26		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
4		100 x 50 x 20 x 3mm Lipped channel section girts/purlins welded or bolted to brackets	t	0,11		
		<u>STEEL STAIRCASES</u>				
		<u>Galvanised mild steel staircases including all welding and bolting to floors, slabs, walls, beams and columns</u>				
		Fabricate, deliver to site and install galvanised mild steel staircases including all necessary stringers, columns, bracing, all welded and bolted to concrete/brickwork including base plates, connection plates, bolt plates, bolts, chemical anchors, to be wire brushed clean to the Principal Agents approval, damage during transit, site welding and or erection must be wire brushed to bare metal and followed by the above specification. All welding (Neatly) to be continuous or putty filled and ground smooth as well as all steel sizes and fixings to be approved by Structural Engineer & Architectural Professional as per the drawings issued with this tender. All in line with the Principal Agents approval.				
5		Staircase 01 3975mm high overall from top of Ground Floor surface bed to bottom of First Floor Slab, comprising all flights of staircases and landings, etc, complete all fixed to concrete/brickwork as per drawings	t	2		
		<u>Bolts to trusses etc</u>				
6		8 x M20 Bolt and Nuts	No	16		
		<u>PAINTWORK</u>				
		<u>Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascoatuff 3500 patch primer, one coat Plascoquad 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane.</u>				
7		On structural steel members	t	2		
8		Re-paint existing structural steel members	t	23		
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 12 : METALWORK</u> <u>PREAMBLES</u> The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition). <u>SUPPLEMENTARY PREAMBLES</u> <u>Descriptions of bolts, anchors, etc</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 Items 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>Preparation of metal surfaces</u> All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection <u>Door frames</u> Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type <u>Steel windows</u> Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated <u>Aluminium doors, windows, etc</u> Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively 3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years <u>Sealing of all abutments</u> All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints <u>STEEL HANDRAILS, BALUSTRADES, ETC</u> <u>Welded hot-dipped galvanised steel balustrading to walkways, stairs, etc.</u> Balustrading 1000mm high, formed of 50 x 50 x 2.5mm thick hollow section top and bottom rails, 50 x 50 x 2.5mm thick hollow section stanchions at 2000mm centres with 100 x 100 x 5mm baseplate welded on, four times holed for bolts, the balustrading filled in with 12 x 12mm solid section vertical rails at maximum 100mm centres, all open ends of hollow sections closed up with 3mm thick plate and each stanchion to be secured to brickwork or concrete with four M10 x 75mm anchor bolts Raking balustrading 1000mm high, formed of 50 x 50 x 2.5mm thick hollow section top and bottom rails, 50 x 50 x 2.5mm thick hollow section stanchions at 2000mm centres with 100 x 100 x 5mm baseplate welded on, four times holed for bolts, the balustrading filled in with 12 x 12mm solid section vertical rails at maximum 100mm centres, all open ends of hollow sections closed up with 3mm thick plate and each stanchion to be secured to brickwork or concrete with four M10 x 75mm anchor bolts <u>PRESSED STEEL DOOR FRAMES</u> <u>1.6mm Single rebated frames suitable for half brick walls</u> Frame for door 813 x 2135mm high				
1			m	27		
2			m	28		
3			No	4		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>ALUMINIUM DOORS</u>				
		<u>Natural anodised aluminium windows glazed with 6.38mm clear PVB laminated safety glass as per "AAAMSA" regulations and SANS 10400-N, complete with subframes, ironmongery, glass, sealing, etc and fixing to brickwork or concrete</u>				
4		Window suitable for opening 1200 x 600mm high overall	No	1		
5		Window suitable for opening 1500 x 600mm high overall	No	1		
6		Window suitable for opening 2000 x 1100mm high overall	No	1		
7		Window suitable for opening 3600 x 600mm high overall	No	2		
8		Window suitable for opening 3600 x 1100mm high overall	No	1		
9		Window suitable for opening 4800 x 1100mm high overall	No	1		
10		Window suitable for opening 6000 x 1100mm high overall	No	4		
11		Shopfront suitable for opening 5500 x 3310mm high overall including double door complete	No	1		
		<u>GALVANISED STEEL ROLLER SHUTTER DOORS, ETC.</u>				
		<u>Automated high light industrial zincalume roller shutters fixed to brickwork or concrete</u>				
12		Roller shutter for 2920 x 3300mm high opening	No	1		
		<u>SKIRTINGS</u>				
		<u>Natural anodised aluminium skirting</u>				
13		100mm High skirting	m	160		
		<u>BUDGETARY ALLOWANCES</u>				
14		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for burglar bars	Item	1	100 000,00	
15		Provide the budgetary allowance of R150 000,00 (One Hundred and Fifty Thousand Rand) for the supply and installation of lift glass panel	Item	1	150 000,00	
16		Provide the budgetary allowance of R120 000,00 (One Hundred and Twenty Thousand Rand) for the supply and installation of aluminium clad entrance canopy	Item	1	120 000,00	
		Carried Forward to Summary of Section No. 4				

Carried Forward to Summary of Section No. 4

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 14 : TILING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>TILING NOTE</u>				
		All PC amounts include for delivery to site, handling, storing, etc.				
		<u>WALL TILING</u>				
		<u>600 x 600 x 8mm Matt glazed colour body porcelain wall tiles (PEI 5 rating) fixed with rapid setting tile adhesive to plastered walls and grout to manufacturer's specifications and in compliance with the SABS approved standards, pattern and colour to architects approval</u>				
1		On walls	m2	195		
2		On walls in isolated panels, splashbacks, etc	m2	3		
3		On narrow widths	m2	10		
		<u>FLOOR TILING</u>				
		<u>600 x 600 x 8mm Matt glazed colour body porcelain floor tiles (PEI 5 rating) fixed with rapid setting tile adhesive to screed (screed elsewhere) and flush pointed with 3mm waterproof jointing compound all in accordance with manufacturer's instructions</u>				
4		On floors and landings	m2	246		
5		On floors and landings in toilets	m2	49		
6		100mm High tile skirting	m	222		
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 15 : PLUMBING AND DRAINAGE</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		NOTE: Unless otherwise stated herein all items in this bill shall be deemed to fall into Work Group No. 148 for Contract Price Adjustment Provisions (CPAP) formula purposes				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Supplementary preamble items as described in Bill No. 1, shall equally apply to this Bill.				
		<u>Concrete pipes:</u>				
		Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings				
		<u>uPVC pipes and fittings:</u>				
		Soil, waste and vent pipes and fittings shall be solvent weld jointed				
		<u>uPVC pressure pipes and fittings:</u>				
		Pipes for water supply shall be of the class stated				
		Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings				
		<u>Copper pipes:</u>				
		Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground				
		<u>Fixing of pipes</u>				
		Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level				
		<u>Reducing fittings</u>				
		Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
		<u>Wire gratings</u>				
		Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings				
		<u>Exposed concrete surfaces</u>				
		Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gully tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster				
		<u>Excavations</u>				
		No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling				
		"Soft rock" and "hard rock" shall be as defined in "Earthworks"				
		<u>Laying, backfilling, bedding, etc. of pipes</u>				
		Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions				
		Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding				
		<u>Flush pans</u>				
		Flush pans shall have straight or side outlets and "P" or "S" traps as necessary				
		<u>Stainless steel basins, sinks, wash troughs, urinals, etc.</u>				
		Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Waste unions</u>				
		Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
		<u>Steel sectional water tanks</u>				
		Tanks shall comply with SABS CKS 114				
		<u>Petrolatum anti-corrosion tape</u>				
		Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described				
		Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc				
		<u>As-built drawings</u>				
		Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the project manager for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)				
		<u>SANITARY FITTINGS</u>				
		<u>Stainless steel</u>				
1		"Franke Model 1990007" 1200 x 500 x 149mm "Quinline QLX621-120" stainless steel inset double bowl sink	No	1		
		<u>Vitreous china etc.</u>				
2		"Grohe Dawn VAA-439600WH" Vitreous china wall hung washdown pan with model "VAA-8084Z000" galvanised fixations, and "Geberit Alpha 110.175.00.1" 80mm cistern, and "Geberit Alpha 115045.21.1" chrome plated flush plate	No	5		
3		"Vaal/Grohe Dawn VAA-704201WH" vitreous china "Weaver" basin 575 x 455mm installed in strict accordance to manufacturer's specification	No	6		
4		"Grohe Dawn VAA-7051227WH" white vitreous china wall hung urinal with "Geberit 116.003.00.1" installation set with flush pipe (flushing valve elsewhere)	No	3		
		<u>WASTE UNIONS ETC</u>				
5		32mm Basin waste union	No	6		
6		38mm Bath or sink waste union	No	1		
		<u>TRAPS ETC</u>				
		Traps, etc including joints to steel pipe and/or fittings unless otherwise described				
		<u>uPVC etc.</u>				
7		32 - 40mm Butyl rubber deep seal "P" or "S" trap	No	1		
		<u>Brass</u>				
		<u>CP</u>				
8		32mm CP bottle trap	No	6		
9		40mm CP bottle trap with tail pipe	No	3		
10		50mm "Geberit 152.950.11.1" horizontal outlet urinal trap	No	3		
		<u>TAPS, VALVES, ETC</u>				
11		15mm CP angle regulating valve	No	15		
12		"Grohe Dawn COB-FC-970" chrome sink mixer	No	1		
13		"Hansgrohe 31733343" decor mixer	No	6		
14		"Geberit 116.015.SN.1" urinal flush control with pneumatic flush actuation, polished/brushed stainless steel actuator plate type 10	No	3		
15		15mm CP elbow action pillar type sink mixer with aerated swan neck swivel outlet (ZH77)	No	1		
16		15mm CP elbow action wall type mixer with a swivel outlet and a hook (ZH76)	No	6		
17		Flushmaster Junior urinal flush valve	No	5		
		<u>SANITARY PLUMBING</u>				
		<u>uPVC pipes</u>				
18		50mm Pipes	m	60		
19		110mm Pipes	m	50		
		<u>Extra over uPVC pipes for fittings</u>				
20		50mm Bend	No	40		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
21		50mm Access bend	No	20		
22		110mm Bend	No	50		
23		110mm Pan connector	No	5		
24		110mm Access bend	No	25		
		<u>Sundries</u>				
25		Testing waste pipe system	Item	1		
		<u>WATER SUPPLIES</u>				
		<u>Class 1 copper pipes</u>				
26		15mm Pipes	m	225		
27		22mm Pipes	m	150		
		<u>Extra over class 1 copper pipes for capillary fittings</u>				
28		15mm Fittings	No	75		
29		22mm Fittings	No	75		
		<u>Copper overflow and service pipes</u>				
30		15mm Service pipe 350mm girth	No	30		
		<u>TESTING</u>				
31		Testing water pipe system	Item	1		
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 16 : PAINTWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		All paint applications are to be in strict accordance with the Manufacturers' specification.				
		<u>ON POWERFLOATED CONCRETE SURFACES</u>				
		Prepare surface and prime with Vuka Crete Primer at 4m2/L then install Vuka Crete HD water based polyurethane compound 9mm thick in strict accordance with the technical data obtainable from Vuka Floors. All work to be done by Vuka Floors approved applicators.				
1		On powerfloated floors	m2	46		
		5mm thick X 75mm high skirting with 50mm coved radius using Flowcrete F1 Coving Motar sealed with Flowfresh Coating				
2		On skirting	m	47		
		<u>PLASCON OR SIMILAR APPROVED:</u>				
		<u>ON EXTERNAL CEMENT PLASTERED AND FACEBRICK WALLS.</u>				
		Ensure that surfaces are dry, sound and clean and apply one coat "Plascon Professional Gypsum & Plaster Primer (PP700)" and two finishing coats "Plascon Professional Superior Low Sheen (PEM 1000/TLS)"				
3		On existing facebrick walls.	m2	101		
		<u>ON INTERNAL: CEMENT PLASTER, RHINOLITE AND CONCRETE WALLS:</u>				
		One undercoat and two coats chemical resistant paint Colour to approval:				
4		On walls.	m2	434		
5		On existing plastered walls.	m2	624		
6		On drywall partitioning	m2	896		
7		On ceilings and cornices	m2	307		
		<u>ON METAL SURFACES</u>				
		Prepare surfaces and apply one coat 'Professional Plascoprime 170 Zinc Phosphate Primer (UC 170)' and two coats Professional Gloss Enamel PSB 800 / TGE tint range.				
8		On door frames	m2	12		
9		On balustrades	m2	121		
		<u>ON WOOD</u>				
		Sand down smooth and prepare for 2 coats silkwood varnish colour by Architect. (FLB doors)				
10		On timber stairs	m2	25		
11		On doors.	m2	71		
12		On skirtings, rails, etc., not exceeding 300mm girth.	m	232		
		<u>BUDGETARY ALLOWANCES</u>				
13		Provide the budgetary allowance of R247 000,00 (Two Hundred and Forty Seven Thousand Rand) for external wall claddings	Item	1	247 000,00	
14		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for the supply and installation of artwork	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 17 : PROVISIONAL SUMS</u>				
		<u>PREAMBLES FOR TRADES</u>				
		The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of descriptions of items fully described in the said Model Preambles will be entertained. Supplementary preambles are incorporated in these bills of quantities where necessary to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles. The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles. NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to be a fixed price for the duration of this project.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Work executed by direct contractors</u>				
		Work to be executed by direct contractors will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required				
		<u>Profit</u>				
		Where stated, the contractor may allow for profit if required				
		<u>General attendance upon selected sub-contractors and direct contractors</u>				
		The item "Allow for general attendance" which follows each provisional sum for selected sub-contractors and direct contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors and direct contractors, the following, but not limited to:				
		1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the contractor				
		2. The provision of an area for the sub-contractor to establish temporary office accommodation and workshops and for the storage of plant and materials				
		3. Making good in all trades and cleaning down and removal of rubbish on completion				
		4. The use of erected scaffolding belonging to the contractor, in common with others having the like right, while it remains erected on site				
		5. The use, at reasonable times by arrangement, of the contractor's erected hoisting equipment				
		6. The provision of water and lighting and of power to a point within 50 metres of the place where the subcontract work is to be carried out				
		7. Unloading, storing, placing in position, providing special power supplies, specific hoisting, craning and scaffolding requirements, provision of temporary casing and/or other specific protection of works, special security and clearing away rubbish and the like				
		<u>Taking delivery</u>				
		Taking delivery of goods or articles by the contractor on site shall mean getting in, unpacking, checking that the quantity is correct and that the goods are complete and undamaged, submitting a report thereof to the interested parties and issuing vouchers for the receipt of such goods. The contractor shall store the goods and will be held responsible for the safety thereof and indemnify the employer against any damage or loss which may occur				
		<u>Preliminaries</u>				
		The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"				
		Clause 12.1.21The contractor is herewith informed that no scaffolding is separately measured and scaffolding should be included in the bill rates where applicable				
		<u>FURNITURE</u>				
1		Provide the provisional sum of R2 300 000,00 (Two Million Three Hundred Thousand Rand) for the supply and installation of furniture	Item	1	2 300 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>PRASA / GIBELA BRANDING</u>				
4		Provide the provisional sum of R500 000,00 (Five Hundred Thousand Rand) for supply and installation of Prasa / Gibela branding	Item	1	500 000,00	
5		Profit	%IT			
6		Attendance	%IT			
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
7		Provide the budgetary allowance of R200 000,00 (Two Hundred Thousand Rand) for sundry builders work	Item	1	200 000,00	
		Carried Forward to Summary of Section No. 4				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - BUILDING 3 - GIBELA OFFICES		Page No		
1		ALTERATIONS	Page	51		
2		EARTHWORKS	Page	53		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	55		
4		MASONRY	Page	56		
5		WATERPROOFING	Page	57		
6		ROOF COVERINGS	Page	58		
7		CARPENTRY AND JOINERY	Page	59		
8		CEILLINGS, PARTITIONS AND ACCESS FLOORING	Page	62		
9		FLOOR COVERINGS, PLASTIC LININGS, ETC	Page	63		
10		IRONMONGERY	Page	65		
11		STRUCTURAL STEELWORK	Page	66		
12		METALWORK	Page	68		
13		PLASTERING	Page	69		
14		TILING	Page	70		
15		PLUMBING AND DRAINAGE	Page	73		
16		PAINTWORK	Page	74		
17		PROVISIONAL SUMS	Page	76		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION FIVE : BOGIE STORAGE</u>				
		<u>BILL NO. 1 : ALTERATIONS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>General</u>				
		Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
		The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u>				
		Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately				
		Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u>				
		Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u>				
		Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides				
		Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork				
		<u>Protection</u>				
		The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		<u>HOARDING, ETC</u>				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		<u>REMOVAL OF EXISTING WORK</u>				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
		<u>Breaking up and removing reinforced concrete</u>				
2		Surface beds	m3	128		
		<u>REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.</u>				
3		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	120		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : EARTHWORKS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Contour drawings:</u>				
		The following quantities have been computed from the dimensions and contours shown on the drawing.				
		Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced.				
		<u>Transport of earthworks:</u>				
		The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to:(i) All material excavated on site and used for filling on site.(ii) All material excavated on site and stockpiled on site.				
		<u>Notice:</u>				
		The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation				
		<u>Rates:</u>				
		Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this.				
		<u>Computation of quantities:</u>				
		Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required.				
		<u>Taking and testing of samples:</u>				
		The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification.				
		Prices for filling are to include for all necessary density tests with SABS 1200D				
		The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect.				
		Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense.				
		<u>Carting away of excavated material:</u>				
		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.				
		<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
		<u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Trenches	m3	81		
2		Holes	m3	20		
3		Reducing levels under floors	m3	321		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
4		Soft rock.	m3	10		
5		Hard rock.	m3	5		
		<u>Extra over excavations for carting away.</u>				
6		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	370		
		<u>Risk of collapse of excavations:</u>				
7		Sides of trench and hole excavations not exceeding 1,5m deep.	m2	239		
		<u>Keeping excavations free of water:</u>				
8		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>FILLING, ETC.</u>				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
9		In 150mm thick layers in backfilling under surface beds	m3	128		
10		In 150mm thick layers in backfilling to trenches and holes	m3	41		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
11		Under surface beds, holes, etc.	m3	128		
		<u>Compaction of surfaces:</u>				
12		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	428		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ⌚To be applied by a certified pest control contractor. ⌚Not when soil is excessively wet. ⌚Do not disturb treated surface. ⌚Do not bury scraps of timber in ground fill. ⌚Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
13		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	428		
14		To bottoms and sides of trenches, etc.	m2	402		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Cost of tests:</u>				
		The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).				
		<u>Formwork:</u>				
		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.				
		The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.				
		Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.				
		Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.				
		<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>15MPa/19mm Concrete in:</u>				
1		Surface blinding under footings and bases.	m3	5		
		<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>30MPa/19mm Concrete in:</u>				
2		Strip footings.	m3	20		
3		Column bases	m3	7		
4		Surface beds cast in panels on waterproofing.	m3	107		
		<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>				
		<u>30MPa/19mm Concrete in:</u>				
5		Columns in foundations.	m3	3		
6		Stub columns	m3	4		
		<u>Test blocks:</u>				
7		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	23		
		<u>CONCRETE SUNDRIES</u>				
		<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>				
8		Surface beds laid in panels.	m2	428		
		<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Rough formwork to sides of:</u>				
9		Edges, risers, ends and reveals exceeding 300mm high or wide.	m2	26		
10		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	230		
		<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>				
		<u>Smooth formwork to sides of:</u>				
11		Square sides of rectangular columns not exceeding 3.5m in height above bearing capacity.	m2	57		
		<u>Extra on smooth formwork for boxing in to form:</u>				
12		25 x 25mm Vertical chamfer to corner of columns.	m	114		
		<u>MOVEMENT JOINTS, ETC.</u>				
		<u>10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint filler and backing strip between concrete surface bed and walls or kerbs:</u>				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
13		Not exceeding 300mm high to edges of surface beds.	m	108		
		<u>Saw-cut joints:</u>				
14		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	202		
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
15		Through 250mm thick surface beds including formwork and two coats bitumen paint on one face	m	101		
		REINFORCEMENT				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
16		Reinforcement bars in various diameters.	t	6		
		High tensile steel dowel bars				
		20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve with end cap including hole through formwork	No	210		
		<u>Fabric reinforcement:</u>				
18		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	428		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : MASONRY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN FOUNDATIONS</u>				
		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
1		One brick walls	m2	121		
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
2		Half brick walls in beamfilling	m2	32		
3		One brick walls.	m2	358		
		<u>BRICKWORK SUNDRIES</u>				
		<u>Brickwork reinforcement:</u>				
4		150mm Wide reinforcement built in horizontally.	m	2 882		
		<u>'Fabcon' prestressed fabricated lintels including necessary supports.</u>				
5		102 x 75mm Lintels in lengths not exceeding 3m.	m	100		
		<u>Galvanised wire ties, etc.</u>				
6		4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and the other end fixed to timber.	No	20		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
7		Extra over brickwork for face brickwork in stretcher bond	m2	716		
8		Extra over brickwork for face brickwork in stretcher bond in foundations	m2	51		
9		230mm Wide copings set flat and flush.	m	115		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : WATERPROOFING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMP-PROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 375 micron 'Consol Plastics Brickgrip DPC' embossed damp proof course sealed at all edges, laid and joint in strict accordance with the manufacturer's instructions:</u>				
1		Laid horizontally and built under walls, cills, etc.	m2	26		
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions:</u>				
2		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	428		
		<u>JOINT SEALANTS. ETC.</u>				
		<u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE'. Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>				
3		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	202		
4		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	209		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : ROOF COVERINGS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Straight cutting</u>				
		Descriptions of all roof coverings are deemed to include for all straight cutting.				
		<u>Profiled fibre-cement sheeting and accessories</u>				
		Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.				
		"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.				
		<u>Guarantees:</u>				
		"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor. A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."				
		<u>PROFILED METAL SHEETING AND ACCESSORIES</u>				
		<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure, All to Structural Engineer's Detail and Specifications.</u>				
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	500		
2		Side cladding fixed to steel girts (girts elsewhere measured).	m2	400		
3		Headwall flashing	m	72		
		<u>ROOF INSULATION</u>				
		<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions:</u>				
4		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	500		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Structural steelwork				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids				
		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 and concrete				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
		STEEL COLUMNS AND BEAMS				
		<u>Welded columns in single lengths with flat base plates, bolted to concrete</u>				
1		305 x 165mm x 41kg/m I-section columns	t	4		
		<u>Welded beams in single lengths, welded to steel columns</u>				
2		254 x 146mm x 31kg/m I-section beams	t	1		
		ROOF TRUSSES, ETC				
		<u>Welded roof trusses of angle section rails, struts, braces, cleats, etc and flat section bearer, gusset and connection plates bolted to steel</u>				
3		305 x 165mm x 41kg/m I-section beams	t	4		
		<u>Bolts to trusses etc</u>				
4		8 x M20 Bolt and Nuts	No	52		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
5		200 x 75 x 20 x 3.5mm Lipped channel section purlins welded or bolted to brackets	t	5		
6		225 x 100 x 20 x 4.5mm Lipped channel section girts welded or bolted to brackets	t	7		
7		150 x 150 x 15mm L-section bracing	t	4		
		<u>GUTTERS AND DOWNPIPES</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
8		800mm Wide x 600mm deep x 3mm thick box gutters welded or bolted to brackets	t	5		
9		350 x 350 x 3mm Thick downpipes welded or bolted to brackets	t	2		
		<u>PAINTWORK</u>				
		<u>Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascotuff 3500 patch primer, one coat Plascoquad 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane</u>				
10		On structural steel members	t	30		
		Carried Forward to Summary of Section No. 5				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 8 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Descriptions of bolts, anchors, etc</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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>GALVANISED STEEL ROLLER SHUTTERS ETC</u>				
		<u>Automated high light industrial zincalume roller shutters fixed to brickwork or concrete</u>				
1		Roller shutter for 2920 x 3300mm high opening	No	1		
2		Roller shutter for 3500 x 5000mm high opening	No	1		
		Carried Forward to Summary of Section No. 5				

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THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - BOGIE STORAGE		Page No		
1		ALTERATIONS	Page	78		
2		EARTHWORKS	Page	80		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	82		
4		MASONRY	Page	83		
5		WATERPROOFING	Page	84		
6		ROOF COVERINGS	Page	85		
7		STRUCTURAL STEELWORK	Page	86		
8		METALWORK	Page	87		
9		PAINTWORK	Page	88		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION SIX : EXTENSION OF THE LIFTING SHED				
		BILL NO. 1 : ALTERATIONS				
		PREAMBLES				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		SUPPLEMENTARY PREAMBLES				
		<u>General</u>				
		Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
		The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u>				
		Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately				
		Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u>				
		Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u>				
		Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides				
		Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork				
		<u>Protection</u>				
		The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		HOARDING, ETC				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		REMOVAL OF EXISTING WORK				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
		<u>Breaking up and removing reinforced concrete</u>				
2		Surface beds	m3	210		
		REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.				
3		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	210		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : EARTHWORKS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Contour drawings:				
		The following quantities have been computed from the dimensions and contours shown on the drawing.				
		Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced.				
		Transport of earthworks:				
		The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to:(i) All material excavated on site and used for filling on site.(ii) All material excavated on site and stockpiled on site.				
		Notice:				
		The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation				
		Rates:				
		Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this.				
		Computation of quantities:				
		Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required.				
		Taking and testing of samples:				
		The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification.				
		Prices for filling are to include for all necessary density tests with SABS 1200D				
		The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect.				
		Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense.				
		Carting away of excavated material:				
		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.				
		<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
		<u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Trenches	m3	60		
2		Holes	m3	378		
3		Service pits	m3	622		
4		Reducing levels under floors	m3	1 505		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
5		Soft rock.	m3	106		
6		Hard rock.	m3	53		
		<u>Extra over excavations for carting away.</u>				
7		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	1 983		
		<u>Risk of collapse of excavations:</u>				
8		Sides of trench and hole excavations not exceeding 1,5m deep.	m2	548		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
9		Sides of trench and hole excavations exceeding 1,5m and not exceeding 3m deep. <u>Keeping excavations free of water:</u>	m2	336		
10		Allow for keeping excavations free of all water, mud, etc. By hand or machinery. FILLING, ETC. <u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u> <u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>	Item	1		
11		In 150mm thick layers in backfilling under surface beds	m3	1 223		
12		In 150mm thick layers in backfilling to trenches and holes	m3	219		
13		In 150mm thick layers in backfilling behind service pits retaining walls <u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>	m3	336		
14		Under surface beds, holes, etc. <u>Compaction of surfaces:</u>	m3	188		
15		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO. <u>Soil insecticide.</u> All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ☐To be applied by a certified pest control contractor. ☐Not when soil is excessively wet. ☐Do not disturb treated surface. ☐Do not bury scraps of timber in ground fill. ☐Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.	m2	627		
16		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	627		
17		To bottoms and sides of trenches, etc.	m2	1 492		
Carried Forward to Summary of Section No. 6						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>						
<u>PREAMBLES</u>						
The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).						
<u>SUPPLEMENTARY PREAMBLES</u>						
<u>Cost of tests:</u>						
The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).						
<u>Formwork:</u>						
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.						
The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.						
Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.						
Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.						
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>						
<u>15MPa/19mm Concrete in:</u>						
1		Surface blinding under footings and bases.	m3	22		
<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>						
<u>30MPa/19mm Concrete in:</u>						
2		Strip footings.	m3	15		
3		Column bases	m3	151		
4		Surface beds cast in panels on waterproofing.	m3	157		
<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>						
<u>30MPa/19mm Concrete in:</u>						
5		Service pit bases	m3	34		
6		Service pit retaining walls	m3	72		
7		Columns in foundations.	m3	8		
8		Stub columns	m3	12		
<u>Test blocks:</u>						
9		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	118		
<u>CONCRETE SUNDRIES</u>						
<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>						
10		Surface beds laid in panels.	m2	627		
11		Bottoms of service pits.	m2	96		
<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>						
<u>Rough formwork to sides of:</u>						
12		Edges, risers, ends and reveals exceeding 300mm high or wide.	m2	151		
13		Back of service pit retaining walls	m2	288		
14		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	170		
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>						
<u>Smooth formwork to sides of:</u>						
15		Service pit retaining walls.	m2	288		
16		Rectangular columns, not exceeding 3.5m in height above bearing capacity.	m2	84		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Extra on smooth formwork for boxing in to form:</u>				
17		25 x 25mm Vertical chamfer to corner of columns.	m	112		
18		100 x 100mm Horizontal chamfer to top of service pit walls	m	160		
		MOVEMENT JOINTS, ETC.				
		<u>10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint filler and backing strip between concrete surface bed and walls or kerbs:</u>				
19		Not exceeding 300mm high to edges of surface beds.	m	85		
		<u>Saw-cut joints:</u>				
20		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	314		
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
21		Through 300mm thick slabs including formwork and two coats bitumen paint on one face	m	314		
		REINFORCEMENT				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
22		Reinforcement bars in various diameters.	t	59		
23		High tensile steel dowel bars				
		<u>20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve with end cap including hole through formwork</u>				
24			No	640		
		<u>Fabric reinforcement:</u>				
25		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	627		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : MASONRY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN FOUNDATIONS</u>				
		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
1		One brick walls	m2	89		
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
2		One brick walls.	m2	174		
		<u>BRICKWORK SUNDRIES</u>				
		<u>Brickwork reinforcement:</u>				
3		150mm Wide reinforcement built in horizontally.	m	1 768		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
4		Extra over brickwork for face brickwork in stretcher bond	m2	349		
5		Extra over brickwork for face brickwork in stretcher bond in foundations	m2	43		
6		230mm Wide copings set flat and flush.	m	85		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : WATERPROOFING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMPPROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 375 micron 'Consol Plastics Brickgrip DPC' embossed damp proof course sealed at all edges, laid and joint in strict accordance with the manufacturer's instructions:</u>				
1		Laid horizontally and built under walls, cills, etc.	m2	20		
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions:</u>				
2		Laid on filling to receive concrete service pits and maintaining in position during concreting.	m2	472		
3		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	627		
		<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC.</u>				
		The Contractor shall allow in his rates for testing the waterproofing for water tightness by ponding the waterproofed surfaces for a period of at least 48 hours before application of the protection layer. Should any leaks occur the contractor shall remedy them at his own expense. Waterproofing to be installed by an approved Derbigum Contractor under a ten-year insurance backed guarantee.				
		<u>PEKAY F835 or similar approved Waterproofing coating charcoal grey seamless</u>				
4		On inside of service pit (sides and bottoms)	m2	288		
		<u>Two coats 'Brixal' bituminous paint</u>				
5		On waterproofing to backs of service pit walls	m2	288		
		<u>JOINT SEALANTS, ETC.</u>				
		<u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE'. Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for no porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>				
6		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	314		
7		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	242		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : ROOF COVERINGS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Straight cutting</u>				
		Descriptions of all roof coverings are deemed to include for all straight cutting.				
		<u>Profiled fibre-cement sheeting and accessories</u>				
		Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.				
		"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.				
		<u>Guarantees:</u>				
		"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor. A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."				
		<u>PROFILED METAL SHEETING AND ACCESSORIES</u>				
		<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure, All to Structural Engineer's Detail and Specifications.</u>				
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	837		
2		Canopy roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	100		
3		Side cladding fixed to steel girts (girts elsewhere measured).	m2	1 690		
4		Canopy side cladding fixed to steel girts (girts elsewhere measured).	m2	74		
5		Ridge or hip flashing	m	31		
6		Drip flashing	m	85		
7		Edge / corner flashings	m	141		
8		Sidewall flashing	m	194		
9		Headwall flashing	m	50		
10		Extra over roof covering for bullnose between roof sheeting and side cladding	m	62		
11		Circular cutting	m	9		
		<u>Galvanised continuous roll formed corrugated "IBR" Translucent Sheetings Or Similar Approved Concealed Fixing Roof Covering, fixed onto to HDGM steel Roof Sub-structure & Portal Frame Structure. All to Structural Engineer's Detail and Specifications</u>				
12		Side cladding	m2	414		
13		Circular cutting	m	48		
		<u>ROOF INSULATION</u>				
		<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions.</u>				
14		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	2 527		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : CARPENTRY AND JOINERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at maximum 600mm centres, and where described as "bolted" the bolts have been given elsewhere				
		<u>Decorative thermosetting plastic laminate covering</u>				
		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
		Decorative laminate finishes shall be glued under pressure				
		<u>Hardwoods</u>				
		All hardwoods shall be specially selected, well seasoned, free from sapwood and kiln dried. Meranti shall be red or medium brown meranti, even in grain and colour				
		<u>Sealing of all abutments</u>				
		All cupboards, counter tops, shelves, etc. abutting walls, tiled surfaces, etc. to be sealed watertight with an approved silicon sealant along all joints				
		<u>DOORS, ETC</u>				
		<u>Fire doors with hardwood veneer</u>				
1		2 Hour fire-rated ASSA ABLOY door (FA), 1,070 x 2,400mm high including suitable pressed steel frame and complete with ironmongery (mechanical lock and a security cylinder) and preparing frame for door closers	No	3		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 8 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Structural steelwork				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings.				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids.				
		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 and concrete.				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
		<u>MAIN STRUCTURE</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded columns in single lengths with flat base plates, bolted to concrete.</u>				
1		533 x 210mm x 122kg/m I-section columns	t	96		
2		260 x 90 x 38kg/m PFC columns	t	3		
3		260 x 90 x 38kg/m PFC in columns	t	9		
		<u>Welded beams in single lengths, welded to steel columns</u>				
4		457 x 191mm x 90kg/m I-section beams	t	14		
5		203 x 133mm x 30kg/m I-section beams	t	2		
6		533 x 210mm x 92kg/m I-section beams	t	5		
7		533 x 210mm x 122kg/m I-section beams	t	4		
		<u>ROOF TRUSSES, ETC</u>				
		<u>Welded roof trusses of angle section rails, struts, braces, cleats, etc and flat section bearer, gusset and connection plates bolted to steel</u>				
8		533 x 210 x 93kg/m I-section beam / rafter	t	21		
9		180 x 70 x 22kg/m Parallel flange channel beam	t	3		
		<u>Bolts to trusses etc</u>				
10		8 x M20 Bolt and Nuts	No	224		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
11		254 x 146 x 37kg/m I-section purlins	t	17		
12		175 x 75 x 20 x 4.5mm Lipped channel section girts welded or bolted to brackets	t	22		
13		150 x 150 x 15mm L-section bracing	t	16		
		<u>THE FOLLOWING IN ALL 3 CANOPIES</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded beams in single lengths, welded to steel columns</u>				
14		IPE 180 x 91mm x 19kg/m rafters	t	3		
		<u>Bolts to trusses etc</u>				
15		8 x M20 Bolt and Nuts	No	1 120		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
16		100 x 50 x 20 x 3mm Lipped channel section purlins welded or bolted to brackets	t	2		
17		100 x 50 x 20 x 3mm Lipped channel section girts welded or bolted to brackets	t	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		PAINTWORK				
		Remove all loose flaking paint by mechanical means scraping, grinding (wire cup wheel) and sanding. Remove all traces of oils, grease and other contaminants using Plascon Metalcare Aquasolv Degreaser (GR 1). Scrub the surface and rinse with fresh water to achieve a water break free surface and allow to dry. Large areas should high pressure washed at 150bar with rotary nozzle. Remove rust by mechanical wire brushing, grinding or coarse sanding to ISO 8501-01:2007 - St 3; adjacent sound coating to be abrade/feathered. Lightly abrade existing coating that have chalked. Remove all dust prior to coating. Apply Plascon Galvanized Iron Cleaner (GIC1) to all bare galvanized areas by brush and scotch bright pads. Allow to react for 1 minute. Rinse off with tap water using "Scotch Brite" pads to remove all surface contaminants. Check if surface is water-break free. If not, repeat the cleaning process. Allow to dry completely. Apply Plascotuff 3500 patch primer, one coat Plascoquard 75 Zinc Phosphate Epoxy Primer and two finishing coats of Plascothane 9000 Polyurethane				
18		On structural steel members	t	218		
Carried Forward to Summary of Section No. 6						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 9 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Descriptions of bolts, anchors, etc</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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process				
		4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked				
		5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>GALVANISED STEEL ROLLER SHUTTERS ETC</u>				
		<u>Automated high light industrial zincalume roller shutters fixed to brickwork or concrete</u>				
1		Roller shutter for 4370 x 5000mm high opening	No	3		
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO.10 : PAINTWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		All paint applications are to be in strict accordance with the Manufacturers' specification.				
		<u>ON POWERFLOATED CONCRETE SURFACES</u>				
		<u>Prepare surface and prime with Vuka Crete Primer at 4m2/L then install Vuka Crete HD water based polyurethane compound 9mm thick in strict accordance with the technical data obtainable from Vuka Floors. All work to be done by Vuka Floors approved applicators.</u>				
1		On powerfloated floors	m2	627		
2		On bottoms and sides of service pits	m2	384		
		<u>5mm thick X 75mm high skirting with 50mm coved radius using Flowcrete F1 Coving Motar sealed with Flowfresh Coating</u>				
3		On skirting	m	107		
		<u>PLASCON OR SIMILAR APPROVED:</u>				
		<u>ON METAL SURFACES</u>				
		<u>Prepare surfaces and apply one coat 'Professional Plascoprime 170 Zinc Phosphate Primer (UC 170)' and two coats Professional Gloss Enamel PSB 800 / TGE tint range.</u>				
4		On door frames	m2	8		
		<u>ON WOOD</u>				
		<u>Sand down smooth and prepare for 2 coats silkwood varnish colour by Architect. (FLB doors).</u>				
5		On doors.	m2	16		
Carried Forward to Summary of Section No. 6						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 11 : PROVISIONAL SUMS</u>				
		<u>PREAMBLES FOR TRADES</u>				
		The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of descriptions of items fully described in the said Model Preambles will be entertained. Supplementary preambles are incorporated in these bills of quantities where necessary to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles. The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles. NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to be a fixed price for the duration of this project.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Work executed by direct contractors</u>				
		Work to be executed by direct contractors will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required				
		<u>Profit</u>				
		Where stated, the contractor may allow for profit if required				
		<u>General attendance upon selected sub-contractors and direct contractors</u>				
		The item "Allow for general attendance" which follows each provisional sum for selected sub-contractors and direct contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors and direct contractors, the following, but not limited to:				
		1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the contractor				
		2. The provision of an area for the sub-contractor to establish temporary office accommodation and workshops and for the storage of plant and materials				
		3. Making good in all trades and cleaning down and removal of rubbish on completion				
		4. The use of erected scaffolding belonging to the contractor, in common with others having the like right, while it remains erected on site				
		5. The use, at reasonable times by arrangement, of the contractor's erected hoisting equipment				
		6. The provision of water and lighting and of power to a point within 50 metres of the place where the subcontract work is to be carried out				
		7. Unloading, storing, placing in position, providing special power supplies, specific hoisting, craning and scaffolding requirements, provision of temporary casing and/or other specific protection of works, special security and clearing away rubbish and the like				
		<u>Taking delivery</u>				
		Taking delivery of goods or articles by the contractor on site shall mean getting in, unpacking, checking that the quantity is correct and that the goods are complete and undamaged, submitting a report thereof to the interested parties and issuing vouchers for the receipt of such goods. The contractor shall store the goods and will be held responsible for the safety thereof and indemnify the employer against any damage or loss which may occur				
		<u>Preliminaries</u>				
		The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"				
		Clause 12.1.21The contractor is herewith informed that no scaffolding is separately measured and scaffolding should be included in the bill rates where applicable				
		<u>STEEL PLATFORMS</u>				
1		Provide the provisional sum of R5 850 000,00 (Five Million Eight Hundred and Fifty Thousand Rand) for the supply and installation of steel platforms	Item	1	5 850 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>BOGIE TURNABLES</u>				
4		Provide the provisional sum of R5 000 000,00 (Five Million Rand) for the supply and installation of bogie turntables	Item	1	5 000 000,00	
5		Profit	%IT			
6		Attendance	%IT			
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>BOGIE MOVER</u>				
7		Provide the provisional sum of R2 000 000,00 (Two Million Rand) for the supply and installation of bogie mover	Item	1	2 000 000,00	
8		Profit	%IT			
9		Attendance	%IT			
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
10		Provide the budgetary allowance of R500 000,00 (Five Hundred Thousand Rand) for sundry builders work	Item	1	500 000,00	
		Carried Forward to Summary of Section No. 6				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - LIFTING SHED EXTENSION		Page No		
1		ALTERATIONS	Page	90		
2		EARTHWORKS	Page	92		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	94		
4		MASONRY	Page	95		
5		WATERPROOFING	Page	96		
6		ROOF COVERINGS	Page	97		
7		CARPENTRY AND JOINERY	Page	98		
8		STRUCTURAL STEELWORK	Page	100		
9		METALWORK	Page	101		
10		PAINTWORK	Page	102		
11		PROVISIONAL SUMS	Page	104		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION SEVEN : EXISTING LIFTING SHED</u>				
		<u>BILL NO. 1 : ALTERATIONS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>General</u>				
		Making good of finishes shall be deemed to include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary				
		The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)				
		<u>Removal of doors, windows, frames, etc</u>				
		Where doors, windows, etc are described as taken out, this shall be understood to include for removal of all beads, architraves, ironmongery, etc. Doors, windows, etc that are to be re-fixed are to be provided with new architraves				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to remain the property of the employer shall be carefully taken out, temporarily stored and handed over to the employer				
		Doors, fanlights, windows, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately				
		Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existing				
		<u>Forming new openings or altering openings in existing walls</u>				
		Where new openings are formed or openings altered in existing walls, the wall above the opening shall be broken out and a new brick, in-situ or prestressed concrete lintel inserted, complete with the necessary reinforcement, formwork, turning piece, etc, the jambs and portions of openings as described shall be built up with new brickwork or blockwork properly toothed and bonded to existing, cavities of hollow walls shall be closed where necessary and finishes shall be made good all round and into reveals				
		<u>Building up openings</u>				
		Where existing openings are described as building up, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides				
		Cement screeds and pavings, granolithic, etc shall be levelled and prepared for the raising of brickwork				
		<u>Protection</u>				
		The contractor must protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc, from damage during the progress of the work and provide all necessary materials for so doing				
		<u>HOARDING, ETC</u>				
1		The Contractor shall allow for erection of appropriate hoarding materials including access gates into hoarded spaces for the duration of the construction works and removal of the hoarding materials after completion	Item	1		
		<u>REMOVAL OF EXISTING WORK</u>				
		Note: All usable material such as roof sheets, windows, etc to be handed over to the employer. All other material (except where stated for re-use) to be removed from site by the contractor				
		<u>Breaking up and removing reinforced concrete</u>				
2		Surface beds	m3	502		
3		Service pit walls	m3	250		
		<u>Breaking down and removing brickwork etc</u>				
		<u>Taking out and removing pressed steel door frames and steel/timber doors including repairs to brickwork and preparation thereof to receive new frames</u>				
4		Steel single door and frame not exceeding 2,5m2	No	6		
5		Steel window not exceeding 2,5m2	No	6		
6		Steel roller shutter doors 4 x 5m high	No	6		
		<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
7		Pitched corrugated sheet steel covering, ceilings and cornices, eaves soffit covering, fascias, barge boards, gutters and rainwater pipes	m2	2 762		
8		Corrugated sheet steel side cladding	m2	2 224		
9		Asbestos insulation	m2	4 986		
		<u>REMOVAL OF ALL EXISTING RUBBLE/ EQUIPMENT, ETC.</u>				
10		Taking down and removing builder's rubble including loading and dumping at a registered municipal site (distance not exceeding 25km)	m3	1 000		
		<u>SERVICES ALTERATIONS</u>				
11		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for the careful disconnection of existing electrical reticulation, and make safe as per the engineers requirements, remove existing light fittings, etc including disconnecting cables from all fittings	Item	1	100 000,00	
12		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for the careful disconnection of all existing mechanical reticulation, including removing all existing hvac fittings, fire fittings, etc. and make safe for demolition works	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : EARTHWORKS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Contour drawings:</u>				
		The following quantities have been computed from the dimensions and contours shown on the drawing.				
		Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced.				
		<u>Transport of earthworks:</u>				
		The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to:(i) All material excavated on site and used for filling on site.(ii) All material excavated on site and stockpiled on site.				
		<u>Notice:</u>				
		The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation				
		<u>Rates:</u>				
		Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this.				
		<u>Computation of quantities:</u>				
		Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required.				
		<u>Taking and testing of samples:</u>				
		The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification.				
		Prices for filling are to include for all necessary density tests with SABS 1200D				
		The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect.				
		Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense.				
		<u>Carting away of excavated material:</u>				
		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.				
		<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
		<u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Service pits	m3	2 178		
2		Reducing levels under floors	m3	4 012		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
3		Soft rock.	m3	218		
4		Hard rock.	m3	109		
		<u>Extra over excavations for carting away.</u>				
5		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	5 023		
		<u>Risk of collapse of excavations:</u>				
6		Sides of trench and hole excavations exceeding 1,5m and not exceeding 3m deep.	m2	1 168		
		<u>Keeping excavations free of water:</u>				
7		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>FILLING, ETC.</u>				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
8		In 150mm thick layers, in backfilling to trenches, holes, etc.	m3	3 260		
9		In 150mm thick layers, in backfilling behind retaining walls	m3	1 168		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
10		Under surface beds, holes, etc.	m3	502		
		<u>Compaction of surfaces:</u>				
11		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	1 672		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ☐To be applied by a certified pest control contractor. ☐Not when soil is excessively wet. ☐Do not disturb treated surface. ☐Do not bury scraps of timber in ground fill. ☐Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
12		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	1 672		
13		To bottoms and sides of trenches, etc.	m2	2 205		
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 3 : CONCRETE, FORMWORK AND REINFORCEMENT</u>						
<u>PREAMBLES</u>						
The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).						
<u>SUPPLEMENTARY PREAMBLES</u>						
<u>Cost of tests:</u>						
The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).						
<u>Formwork:</u>						
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.						
The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.						
Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.						
Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.						
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>						
<u>15MPa/19mm Concrete in:</u>						
1		Surface blinding under footings and bases.	m3	24		
<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>						
<u>30MPa/19mm Concrete in:</u>						
2		Surface beds cast in panels on waterproofing.	m3	418		
<u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u>						
<u>30MPa/19mm Concrete in:</u>						
3		Service pit bases	m3	120		
4		Service pit retaining walls	m3	250		
5		Access stairs in service pits	m3	107		
6		Ramps into service pits	m3	10		
<u>Test blocks:</u>						
7		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	246		
<u>CONCRETE SUNDRIES</u>						
<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>						
8		Surface beds laid in panels.	m2	1 672		
9		Bottoms of service pits.	m2	342		
<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>						
<u>Rough formwork to sides of:</u>						
10		Back of service pit retaining walls	m2	1 001		
11		Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	554		
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>						
<u>Smooth formwork to sides of:</u>						
12		Service pit retaining walls.	m2	1 001		
<u>Extra on smooth formwork for boxing in to form:</u>						
13		125 x 125mm Horizontal chamfer to top of service pit walls	m	556		
<u>MOVEMENT JOINTS, ETC.</u>						
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>10mm Thick isolation joint with and including 10mm "Sondor Jointex" or equivalent approved joint filler and backing strip between concrete surface bed and walls or kerbs:</u>				
14		Not exceeding 300mm high to edges of surface beds.	m	265		
		<u>Saw-cut joints:</u>				
15		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	1 255		
		<u>Horizontal construction joints through concrete including 10mm "Sondor Jointex" or equivalent approved joint filler and 300mm wide x 2mm thick "Sikadur Combiflex" or equivalent approved bandage</u>				
16		Through 300mm thick slabs including formwork and two coats bitumen paint on one face	m	628		
		REINFORCEMENT				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
17		Reinforcement bars in various diameters.	t	93		
		High tensile steel dowel bars				
		<u>20mm Diameter dowel bar 600mm long with one end epoxied with HILTI HIT-HY 200A and embedded 200mm deep in side of concrete at expansion joint and other end greased with graphite grease and inserted in 25mm diameter PVC sleeve with end cap including hole through formwork</u>				
18			No	1 270		
		<u>Fabric reinforcement:</u>				
19		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	1 672		
		SUPPORTING THE TRENCH ON LINE 3				
20		Provide the budgetary allowance of R1 000 000,00 (One Million Rand) for supporting the trench on line 3	Item	1	1 000 000,00	
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : WATERPROOFING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMP-PROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions.</u>				
1		Laid on filling to receive concrete service pits and maintaining in position during concreting.	m2	1 482		
2		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	1 672		
		<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC.</u>				
		The Contractor shall allow in his rates for testing the waterproofing for water tightness by ponding the waterproofed surfaces for a period of at least 48 hours before application of the protection layer. Should any leaks occur the contractor shall remedy them at his own expense. Waterproofing to be installed by an approved Derbigum Contractor under a ten-year insurance backed guarantee.				
		<u>PEKAY F835 or similar approved Waterproofing coating charcoal grey seamless</u>				
3		On inside of service pit (sides and bottoms)	m2	2 496		
		<u>PROTECTIVE ROOFING PAINT</u>				
		<u>Two coats 'Brixal' bituminous paint</u>				
4		On waterproofing to backs of service pit walls	m2	1 001		
		<u>JOINT SEALANTS, ETC.</u>				
		<u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE', Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for no porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>				
5		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	1 255		
6		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	893		
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 5 : ROOF COVERINGS</u>						
<u>PREAMBLES</u>						
The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).						
<u>SUPPLEMENTARY PREAMBLES</u>						
<u>Straight cutting</u>						
Descriptions of all roof coverings are deemed to include for all straight cutting.						
<u>Profiled fibre-cement sheeting and accessories</u>						
Profiled fibre-cement sheeting and accessories shall be fixed strictly in accordance with the manufacturer's instructions.						
"Roof sheeting, etc. shall be secured to wood purlins with 8mm" galvanised drive screws of appropriate length and to steel purlins with 8mm galvanised hook bolts of appropriate length and nuts. "Each fixing screw or bolt shall be fitted with one Everseal combination steel cup and PVC washer system.						
<u>Guarantees:</u>						
"Roof sheeting shall be laid in strict accordance with the manufacturer's specification by an approved contractor.A written and approved five year guarantee of site workmanship and water tightness shall be issued after final inspection of the roofs by the manufacturer of the sheeting."						
<u>PROFILED METAL SHEETING AND ACCESSORIES</u>						
<u>Chromadek Ultim" Or Similar Approved Concealed Fixing Roof Covering Laid at 10° Roof Pitch on Gms Purlins on Painted Steel Structure, All to Structural Engineer's Detail and Specifications.</u>						
1		Roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	3 267		
2		Canopy roof covering with pitch not exceeding 25 degrees fixed to steel purlins (purlins elsewhere measured).	m2	100		
3		Side cladding fixed to steel girts (girts elsewhere measured).	m2	2 224		
4		Canopy side cladding fixed to steel girts (girts elsewhere measured).	m2	74		
5		Sidewall flashing	m	27		
6		Ridge or hip flashing	m	121		
7		Drip flashing	m	265		
8		Edge / corner flashings	m	82		
9		Sidewall flashing	m	602		
10		Extra over roof covering for bullnose between roof sheeting and side cladding	m	240		
11		Circular cutting	m	9		
<u>Galvanised continuous roll formed corrugated "IBR" Translucent Sheetings Or Similar Approved Concealed Fixing Roof Covering, fixed onto to HDGM steel Roof Sub-structure & Portal Frame Structure. All to Structural Engineer's Detail and Specifications</u>						
12		Side cladding	m2	992		
13		Circular cutting	m	192		
<u>ROOF INSULATION</u>						
<u>135mm Thick non-combustible light "factorylite" building insulation 12kg/m3 with white metalized foil laid on straining wires with Ashgrid spacers fixed as per manufacturers instructions:</u>						
14		Fixed to underside of roof sheeting with pitch not exceeding 25 degrees measured flat on plan.	m2	5 491		
Carried Forward to Summary of Section No. 7						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : CARPENTRY AND JOINERY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Fixing</u>				
		Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
		Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at maximum 600mm centres, and where described as "bolted" the bolts have been given elsewhere				
		<u>Decorative thermosetting plastic laminate covering</u>				
		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
		Decorative laminate finishes shall be glued under pressure				
		<u>Hardwoods</u>				
		All hardwoods shall be specially selected, well seasoned, free from sapwood and kiln dried. Meranti shall be red or medium brown meranti, even in grain and colour				
		<u>Sealing of all abutments</u>				
		All cupboards, counter tops, shelves, etc. abutting walls, tiled surfaces, etc. to be sealed watertight with an approved silicon sealant along all joints				
		<u>DOORS, ETC</u>				
		<u>Fire doors with hardwood veneer</u>				
1		2 Hour fire-rated ASSA ABLOY door (FA), 1,070 x 2,400mm high including suitable pressed steel frame and complete with ironmongery (mechanical lock and a security cylinder) and preparing frame for door closers	No	3		
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 7 : STRUCTURAL STEELWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Structural steelwork				
		All structural steelwork shall comply with SANS 2001-CS1 or SANS 10162 and SANS 14713 as applicable. Structural fasteners shall comply with SANS 10094. Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified with a minimum dry film thickness of 30 micrometres before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer. The contractor shall be responsible for the preparation of all shop detail drawings.				
		<u>Descriptions</u>				
		No allowance has been made in the mass of steel for rolling margins, rivets, additional materials in welding, decorative or protective treatment nor constructional aids.				
		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 and concrete.				
		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.				
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
1		175 x 75 x 20 x 4.5mm Lipped channel section girts welded or bolted to brackets	t	45		
		<u>THE FOLLOWING IN ALL 3 CANOPIES</u>				
		<u>STEEL COLUMNS AND BEAMS</u>				
		<u>Welded beams in single lengths, welded to steel columns</u>				
2		IPE 180 x 91mm x 19kg/m rafters	t	3		
		<u>Bolts to trusses etc</u>				
3		8 x M20 Bolt and Nuts	No	1 120		
		<u>PURLINS, GIRTS AND BRACING</u>				
		<u>Purlins, girts and bracing welded to steel</u>				
4		100 x 50 x 20 x 3mm Lipped channel section purlins welded or bolted to brackets	t	2		
5		100 x 50 x 20 x 3mm Lipped channel section girts welded or bolted to brackets	t	1		
		<u>PAINTWORK</u>				
		<u>One coat primer, one coat universal undercoat and two coats super universal enamel paint on steel</u>				
6		On structural steel members	t	51		
7		Re-paint existing structural steel members	t	220		
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 8 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Descriptions of bolts, anchors, etc</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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria. Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings. Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed. For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>GALVANISED STEEL ROLLER SHUTTERS ETC</u>				
		<u>Automated high light industrial zincalume roller shutters fixed to brickwork or concrete</u>				
1		Roller shutter for 4370 x 5000mm high opening	No	3		
		<u>BALUSTRADES ALONG SERVICE PITS</u>				
2		Provide the budgetary allowance of R1 650 000,00 (One Million Six Hundred and Fifty Thousand Rand) for supply and installation of balustrades along service pits	Item	1	1 650 000,00	
		<u>SERVICE PIT GRILLES</u>				
3		Provide the budgetary allowance of R2 000 000,00 (Two Million Rand) for supply and installation of service pit grilles	Item	1	2 000 000,00	
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 9 : PAINTWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		All paint applications are to be in strict accordance with the Manufacturers' specification.				
		<u>ON POWERFLOATED CONCRETE SURFACES</u>				
		<u>Prepare surface and prime with Vuka Crete Primer at 4m2/L then install Vuka Crete HD water based polyurethane compound 9mm thick in strict accordance with the technical data obtainable from Vuka Floors. All work to be done by Vuka Floors approved applicators.</u>				
1		On powerfloated floors	m2	2 511		
2		On bottoms and sides of service pits	m2	2 496		
		<u>5mm thick X 75mm high skirting with 50mm coved radius using Flowcrete F1 Coving Motar sealed with Flowfresh Coating</u>				
3		On skirting	m	299		
		<u>PLASCON OR SIMILAR APPROVED:</u>				
		<u>ON EXTERNAL CEMENT PLASTERED AND CONCRETE WALLS.</u>				
		<u>Ensure that surfaces are dry, sound and clean and apply one coat "Plascon Professional Gypsum & Plaster Primer (PP700)" and two finishing coats "Plascon Professional Superior Low Sheen (PEM 1000/TLS)"</u>				
4		On walls.	m2	345		
		<u>ON INTERNAL: CEMENT PLASTER, RHINOLITE AND CONCRETE WALLS:</u>				
		<u>One undercoat and two coats chemical resistant paint Colour to approval:</u>				
5		On walls.	m2	345		
		<u>ON METAL SURFACES</u>				
		<u>Prepare surfaces and apply one coat 'Professional Plascoprime 170 Zinc Phosphate Primer (UC 170)' and two coats Professional Gloss Enamel PSB 800 / TGE tint range.</u>				
6		On door frames	m2	8		
		<u>ON WOOD</u>				
		<u>Sand down smooth and prepare for 2 coats silkwood varnish colour by Architect. (FLB doors)</u>				
7		On doors.	m2	16		
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 11 : PROVISIONAL SUMS</u>				
		<u>PREAMBLES FOR TRADES</u>				
		The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of descriptions of items fully described in the said Model Preambles will be entertained. Supplementary preambles are incorporated in these bills of quantities where necessary to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles. The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles. NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to be a fixed price for the duration of this project.				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Work executed by direct contractors</u>				
		Work to be executed by direct contractors will commence during the execution of this contract and the contractor shall allow free access to the site for these direct contractors. The contractor shall prepare a programme in conjunction with these direct contractors in order to complete the work successfully. The estimated values of these contracts are listed to enable the contractor to determine profit and attendances, if required				
		<u>Profit</u>				
		Where stated, the contractor may allow for profit if required				
		<u>General attendance upon selected sub-contractors and direct contractors</u>				
		The item "Allow for general attendance" which follows each provisional sum for selected sub-contractors and direct contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors and direct contractors, the following, but not limited to:				
		1. Access to the site and places where the subcontract work is to be carried out, including the reasonable use of any temporary personnel hoists erected by the contractor				
		2. The provision of an area for the sub-contractor to establish temporary office accommodation and workshops and for the storage of plant and materials				
		3. Making good in all trades and cleaning down and removal of rubbish on completion				
		4. The use of erected scaffolding belonging to the contractor, in common with others having the like right, while it remains erected on site				
		5. The use, at reasonable times by arrangement, of the contractor's erected hoisting equipment				
		6. The provision of water and lighting and of power to a point within 50 metres of the place where the subcontract work is to be carried out				
		7. Unloading, storing, placing in position, providing special power supplies, specific hoisting, craning and scaffolding requirements, provision of temporary casing and/or other specific protection of works, special security and clearing away rubbish and the like				
		<u>Taking delivery</u>				
		Taking delivery of goods or articles by the contractor on site shall mean getting in, unpacking,				
		<u>Preliminaries</u>				
		The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Sums"				
		Clause 12.1.21The contractor is herewith informed that no scaffolding is separately measured and scaffolding should be included in the bill rates where applicable				
		<u>SIGNAGE</u>				
1		Provide the provisional sum of R100 000,00 (One Hundred Thousand Rand) for the supply and installation of signage	Item	1	100 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>PRASA BRANDING</u>				
4		Provide the provisional sum of R500 000,00 (Five Hundred Thousand Rand) for the supply and installation of Prasa branding	Item	1	500 000,00	
5		Profit	%IT			
6		Attendance	%IT			
		<u>RELOCATION OF GREY LIFTING JACKS</u>				
7		Provide the provisional sum of R150 000,00 (One Hundred and Fifty Thousand Rand) for the supply and installation of relocation of grey lifting jacks	Item	1	150 000,00	
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
8		Profit	%IT			
9		Attendance	%IT			
		<u>SAFETY SIGNALLING</u>				
10		Provide the provisional sum of R100 000,00 (One Hundred Thousand Rand) for the supply and installation of safety signalling	Item	1	100 000,00	
11		Profit	%IT			
12		Attendance	%IT			
		<u>LIFE LINE</u>				
13		Provide the provisional sum of R2 000 000,00 (Two Million Rand) for the supply and installation of life line	Item	1	2 000 000,00	
14		Profit	%IT			
15		Attendance	%IT			
		<u>EXTEND EXISTING 10TON CRANES</u>				
16		Provide the provisional sum of R1 500 000,00 (One Million Five Hundred Thousand Rand) for extending the existing 10 ton cranes	Item	1	1 500 000,00	
17		Profit	%IT			
18		Attendance	%IT			
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
19		Provide the budgetary allowance of R500 000,00 (Five Hundred Thousand Rand) for sundry builders work	Item	1	500 000,00	
		Carried Forward to Summary of Section No. 7				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - EXISTING LIFTING SHED		Page No		
1		ALTERATIONS	Page	107		
2		EARTHWORKS	Page	109		
3		CONCRETE, FORMWORK AND REINFORCEMENT	Page	111		
4		WATERPROOFING	Page	112		
5		ROOF COVERINGS	Page	113		
6		CARPENTRY AND JOINERY	Page	114		
7		STRUCTURAL STEELWORK	Page	115		
8		METALWORK	Page	116		
9		PAINTWORK	Page	117		
10		PROVISIONAL SUMS	Page	119		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION EIGHT : WASTE STORAGE AREA</u>				
		<u>BILL NO. 1 : EARTHWORKS</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		Contour drawings:				
		The following quantities have been computed from the dimensions and contours shown on the drawing.				
		Should discrepancies be found on the contour site plans detailed proof shall be given in writing to the Engineer, prior to the commencement of earth moving operations as no claim in this respect will be considered once earth moving operations have commenced.				
		Transport of earthworks:				
		The haulage of all material shall, for payment purposes, be regarded as freehaul regardless of distance hauled, and shall apply to: (i) All material excavated on site and used for filling on site. (ii) All material excavated on site and stockpiled on site.				
		<u>Notice:</u>				
		The Contractor must timeously inform the Principal Agent of the different classes of material encountered so that it can be measured accurately. If the Principal Agent receives no prior notice from the contractor to the contrary, all excavated material shall be deemed to be soft excavation				
		<u>Rates:</u>				
		Rates for excavation in bulk earthworks are deemed to include for risk of collapse of sides of excavation, as no separate item has been measured for this.				
		<u>Computation of quantities:</u>				
		Earthworks will be measured by volume once only in excavation. The volumes handled will be computed from the difference in elevations between the specified earthworks levels, as indicated on the relevant Bulk Earthworks drawings. Rates shall include for forming banks, etc. As required.				
		<u>Taking and testing of samples:</u>				
		The Contractor shall engage the services of an approved independent testing laboratory for the testing of materials, and quality testing of layer works, so as to ensure that his work conforms to the specifications. Results of these tests shall be submitted to the Engineer timorously. Tests shall be carried out in accordance with the Engineers specification.				
		Prices for filling are to include for all necessary density tests with SABS 1200D				
		The tendered unit rates shall be deemed to include the cost of all control testing, and no additional claims shall be entertained in this respect.				
		Should control testing arranged by the Contractor not meet the requirements of the Specification, the Engineer shall have the right to conduct all such other testing at the Contractor's expense.				
		<u>Carting away of excavated material:</u>				
		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.				
		<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
		<u>All excavations needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Excavate in earth not exceeding 2m deep below filled, reduced or formed ground level for:</u>				
1		Trenches	m3	30		
2		Reducing levels under floors	m3	60		
		<u>Extra over trench and hole excavations in earth for excavation in:</u>				
3		Soft rock.	m3	3		
4		Hard rock.	m3	2		
		<u>Extra over excavations for carting away.</u>				
5		Surplus materials from excavations to a dumping site to be located by the Contractor.	m3	78		
		<u>Risk of collapse of excavations:</u>				
6		Sides of trench and hole excavations not exceeding 1,5m deep.	m2	86		
		<u>Keeping excavations free of water:</u>				
7		Allow for keeping excavations free of all water, mud, etc. By hand or machinery.	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>FILLING, ETC.</u>				
		<u>All filling needs to be carried out in strict accordance with the "Environmental Management Plan" annexed hereto.</u>				
		<u>Earth filling with selected material obtained from the excavations and/or stock piles on site, compacted to 95% Mod AASHTO.</u>				
8		In 150mm thick layers, in backfilling to trenches, holes, etc.	m3	12		
		<u>Filling with G5 material supplied by the contractor from commercial sources all in accordance with SABS 1200 DM compacted to 95% MOD AASHTO density.</u>				
9		Under surface beds, holes, etc.	m3	60		
		<u>Compaction of surfaces:</u>				
10		Rip, scarify and compact 300mm thick insitu material to 93% Mod AASHTO.	m2	80		
		<u>Soil insecticide.</u>				
		All soil poisoning to be applied with chlordane (SABS 1165) soil insecticide according to SABS 0124. ☐ To be applied by a certified pest control contractor. ☐ Not when soil is excessively wet. ☐ Do not disturb treated surface. ☐ Do not bury scraps of timber in ground fill. ☐ Treat foundation trench bottoms before casting. Provide written guarantee of the treatment, and handover to Architect.				
11		Under floors etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming.	m2	80		
12		To bottoms and sides of trenches, etc.	m2	116		
		Carried Forward to Summary of Section No. 8				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : CONCRETE, FORMWORK AND REINFORCEMENT</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Cost of tests:</u>				
		The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 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 Principal Agent. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Principal Agent. (Test cubes are measured separately).				
		<u>Formwork:</u>				
		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.				
		The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.				
		Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.				
		Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer 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.				
		<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>15MPa/19mm Concrete in:</u>				
1		Surface blinding under footings and bases.	m3	2		
		<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
		<u>30MPa/19mm Concrete in:</u>				
2		Strip footings.	m3	8		
3		Surface beds cast in panels on waterproofing.	m3	12		
		<u>Test blocks:</u>				
4		Allow for making a set of three concrete test cubes in accordance with section 7 of SABS 1200G and sending to an approved testing authority for testing and paying all charges in connection therewith.	Sets	4		
		<u>CONCRETE SUNDRIES</u>				
		<u>Finishing top surfaces of concrete smooth with a powerfloat to:</u>				
5		Surface beds laid in panels to falls	m2	80		
		<u>MOVEMENT JOINTS, ETC.</u>				
		<u>Expansion joints of 12mm bitumen impregnated softboard between vertical concrete surfaces</u>				
6		Through 150mm thick slabs including formwork and two coats bitumen paint on one face	m	26		
		<u>10mm Thick isolation joint with and including backing strip between concrete surface bed and walls or kerbs:</u>				
7		Not exceeding 300mm high to edges of surface beds.	m	43		
		<u>Saw-cut joints:</u>				
8		3mm Wide x 50mm deep machine saw-cut joints with the top 15mm increased to 6mm wide including short lengths, etc.	m	26		
		<u>REINFORCEMENT</u>				
		<u>Mild and high tensile steel reinforcement to structural concrete work in:</u>				
9		Reinforcement bars in various diameters.	t	1		
		<u>Fabric reinforcement:</u>				
10		Type 888 fabric reinforcement in concrete surface beds, slabs, etc.	m2	80		
		Carried Forward to Summary of Section No. 8				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : MASONRY</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>BRICKWORK</u>				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.				
		<u>Hollow walls etc.:</u>				
		Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.				
		<u>Bagged and sealed walls:</u>				
		Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats "Brixeal" bitumen emulsion waterproofing coating.				
		<u>Face bricks:</u>				
		Bricks shall be ordered timeously to obtain uniformity in size and colour.				
		<u>Pointing:</u>				
		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
		<u>Joints:</u>				
		A 10mm clean joint must be left between the top surfaces of internal brick walls and the soffits of concrete slabs. Care must be taken to assure that no mortar, pieces of brick or any other objects exist in the joint.				
		<u>Wire ties:</u>				
		Descriptions of brickwork shall be deemed to include wire ties.				
		<u>Openings:</u>				
		Descriptions of brickwork are deemed to include for forming of openings for windows and doors, horizontal and vertical recesses etc. lintels are measured separately.				
		<u>BRICKWORK IN FOUNDATIONS</u>				
		<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>				
1		One brick walls	m2	43		
		<u>BRICKWORK IN SUPERSTRUCTURE</u>				
		<u>Brickwork general purpose clay stock bricks in class II cement mortar</u>				
2		One brick walls.	m2	103		
		<u>BRICKWORK SUNDRIES</u>				
		<u>Brickwork reinforcement:</u>				
3		150mm Wide reinforcement built in horizontally.	m	926		
		<u>'Fabcon' prestressed fabricated lintels including necessary supports.</u>				
4		102 x 75mm Lintels in lengths not exceeding 3m.	m	39		
		<u>FACE BRICKWORK</u>				
		<u>Clay FBX face brick to match existing (allow R 7,500/thousand prime cost for face bricks supplied to site (excluding VAT)) pointed with recessed horizontal and vertical joints to comply with SABS 227</u>				
5		Extra over brickwork for face brickwork in stretcher bond	m2	206		
6		Extra over brickwork for face brickwork in stretcher bond in foundations	m2	21		
7		Extra over for brick-on-edge coping set flat and flush on both sides	m	43		
		<u>DECORATIVE SCREEN WALLS AND GRILLES</u>				
		<u>Screen walls of approved breeze/grille blocks in class II mortar pointed with flush joints</u>				
8		To fit in one brick walls pointed on both sides and in openings	m2	3		
		Carried Forward to Summary of Section No. 8				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : WATERPROOFING</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Waterproofing:</u>				
		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.				
		<u>Joint sealants:</u>				
		The colour of joint sealants in brickwork or concrete shall match the colour of the adjacent brick or concrete finish.				
		<u>DAMP-PROOFING OF WALLS AND FLOORS</u>				
		<u>One layer of 375 micron 'Consol Plastics Brickgrip DPC' embossed damp proof course sealed at all edges, laid and joint in strict accordance with the manufacturer's instructions:</u>				
1		Laid horizontally and built under walls, cills, etc.	m2	10		
		<u>One layer of 250 micron 'Consol Plastics USB Green' waterproof sheeting. The sheeting shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls, and lapped with 'Brickgrip SABS DPC'. All joints shall be sealed with 'Gunplas Pressure Sensitive Tape' applied to the leading edge of the joint, all in strict accordance with the manufacturer's instructions:</u>				
2		Laid on filling to receive concrete surface bed and maintaining in position during concreting.	m2	80		
		<u>JOINT SEALANTS. ETC.</u>				
		<u>Two-component, gun grade, polyurethane sealant for construction and expansion joints. Primer: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. The sealant will be 'ABE flexothane G', a two-component, gun grade, elastomeric joint sealant applied in accordance with the recommendations of 'ABE'. Construction Chemicals, including primers: epidermix 326 for porous surfaces and epidermix 391 for non porous surfaces. Suitable back-up material, such as 'ABE dura cord' or 'ABE dura sheet' must be used to adjust sealant depth in the joint.</u>				
3		6mm wide x 6mm deep in saw cut joints in floors, including raking out 6mm wide x 0.15mm deep.	m	26		
4		10mm Wide x 10mm deep in isolation joints in floors including raking out expansion joint filler as necessary.	m	69		
		Carried Forward to Summary of Section No. 8				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : METALWORK</u>				
		<u>PREAMBLES</u>				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		<u>SUPPLEMENTARY PREAMBLES</u>				
		<u>Descriptions of bolts, anchors, etc</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				
		Items 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>Preparation of metal surfaces</u>				
		All surfaces of steelwork cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be painted with approved factory etch primer to a minimum dry film thickness of 30 micrometres before leaving the workshop of the manufacturer. All scratches, chips or blemishes to be made good on site after erection				
		<u>Door frames</u>				
		Unless otherwise described, all frames shall be single rebated and suitable for 40mm thick doors, factory fitted with three washered butt hinges for each door and factory primed complying with SANS Specification 909. Striking plates to be of the chromium plated type				
		<u>Steel windows</u>				
		Burglar proofing to be type B20 burglar bars, unless otherwise described. All furniture to be chromium plated				
		<u>Aluminium doors, windows, etc</u>				
		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type as shown on the window schedules and/or drawings appended to these bills of quantities and/or as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to these bills of quantities				
		The following certificates shall be provided prior to commencement of site work: 1A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer supplying the architectural aluminium product 2A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
		3A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process				
		4A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked				
		5A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
		<u>Sealing of all abutments</u>				
		All windows, frames, etc. abutting face brick walls, etc. to be sealed watertight with an approved silicone sealant along all joints				
		<u>CLEARVU FENCING</u>				
1		High security "Clearvu" invisible type cut resistant strengthened welded mesh panel fencing system comprising 2,4m high x approximately 3m wide panels in minimum 3mm diameter vertical and horizontal wires with approximately 76,2 x 12,7mm aperture size and four anti-climb V- or similar shaped panel horizontal bends, standard security type posts minimum 7m long at 3m centres complete with 400 x 400 x 600mm deep class 15 MPa reinforced concrete post bases in ground with all components and spike rails with ribbed/flared spikes securely fixed along top of fencing and gates fully galvanized	m	10		
2		Sliding gate 3m wide x 2,4m high to match high security fencing system with approximately 76,2 x 12,7mm aperture size welded mesh panels complete with steel framing, bracing, mesh panel covering, posts, rails, guide posts, rollers, guides and guide wheels, locking system, concrete foundation or footing for rails etc, fully galvanized	No	4		
3		<u>GULLIES, GREASE TRAPS, ETC</u>				
		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for the supply and installation of gullies, grease traps, etc., complete	Item	1	100 000,00	
		Carried Forward to Summary of Section No. 8				

Carried Forward to Summary of Section No. 8

Carried Forward to Summary of Section No. 8

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - WASTE STORAGE AREA		Page No		
1		EARTHWORKS	Page	122		
2		CONCRETE, FORMWORK AND REINFORCEMENT	Page	123		
3		MASONRY	Page	124		
4		WATERPROOFING	Page	125		
5		METALWORK	Page	126		
6		PLASTERING	Page	127		
7		PAINTWORK	Page	128		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION NINE : EXTERNAL WORKS				
		GENERAL SITE WORKS, ETC				
		PREAMBLES				
		The Tenderer is referred to the relevant clauses in the separate document 'Model Preambles for Trades' (2017 Edition).				
		SUPPLEMENTARY PREAMBLES				
		Supplementary preambles and full descriptions of materials, items, work, etc. applicable to this Section				
		The Contractor is referred to the previous section(s) for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this section, unless specifically otherwise described				
		SITE CLEARANCE				
		Site clearance, trees, etc				
		<u>Site clearance</u>				
1		Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	712		
		<u>Digging up topsoil</u>				
2		Digging up topsoil to an average depth of 100mm and preserving for later use or cart away from site, as per instruction from the engineer	m2	356		
		<u>Open face excavation in earth over sloping site</u>				
3		Open face excavation to form platforms under parking areas etc and depositing excavated material over site, including haulage not exceeding 800m from perimeter of excavations	m3	356		
		<u>Extra over bulk excavations in earth for excavation in</u>				
4		Soft rock	m3	36		
5		Hard rock	m3	18		
		<u>Extra over all excavations for carting away (2km free haul)</u>				
6		Surplus material from excavations on site to a dumping site to be located by the contractor	m3	356		
		<u>Compaction of surfaces</u>				
7		Compaction of ground surfaces under parking areas etc by wetting and compacting with 12 passes of a 3-sided 25 kilo Joule high energy impact compactor	m2	356		
		<u>Filling supplied by the contractor under parking areas, roadways, etc</u>				
8		Layerworks, sub-base and base course of G5 natural gravel material, compacted to 95% Mod AASHTO density	m3	356		
9		Extra over subbase or base course of natural gravel material for stabilisation with 3% OPC cement	m3	80		
		<u>Additional tests required by the principal agent</u>				
10		Atterberg limits test in accordance with methods A2 to A4 of TMH1	No	10		
11		CBR test in accordance with method A8 of TMH1	No	10		
12		"Materials Classification" test	No	10		
		<u>30MPa/19mm In-situ concrete edge beams</u>				
13		Edge beam 200mm wide x 300mm high overall in lengths not exceeding 3m, bedded 150mm deep into roadbed and finished smooth on top with steel float with all external angles rounded, including all necessary excavations, formwork, backfilling, etc.	m	40		
		<u>"Technicrete Double Zig-Zag" pre-cast concrete interlocking paving (25MPa minimum compressive strength) including cutting and filling in edge restraints against kerbs, edge beams, buildings, etc with approved cemented filling compound, rolling to lock-up condition, etc</u>				
14		60mm Thick natural grey paving to assembly areas, walkways, etc	m2	177		
15		80mm Thick natural grey paving to roads, parking areas, etc	m2	356		
		<u>Precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing</u>				
16		180 x 280mm High kerbs (SANS 927 fig 7) semi-mountable kerb with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc	m	533		
		WINDSCREEN TESTING FACILITY				
17		Provide the provisional sum of R2 000 000,00 (Two Million Rand) for the supply and installation of windscreen testing facility complete	Item	1	2 000 000,00	
18		Profit	%IT			
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
19		Attendance	%IT			
		BUDGETARY ALLOWANCES				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
20		Provide the budgetary allowance of R90 000,00 (Ninety Thousand Rand) for sundry builders work (road markings, signage, landscaping, etc)	Item	1	90 000,00	
21		Provide the budgetary allowance of R175 000,00 (One Hundred and Seventy Five Thousand Rand) for fencing	Item	1	175 000,00	
22		Provide the budgetary allowance of R190 000,00 (One Hundred and Ninety Thousand Rand) for shadenet parking	Item	1	190 000,00	
23		Provide the budgetary allowance of R500 000,00 (Five Hundred Thousand Rand) for plant room	Item	1	500 000,00	
24		Provide the budgetary allowance of R1 600 000,00 (One Million Six Hundred Thousand Rand) for steel structure below water tanks	Item	1	1 600 000,00	
Carried Forward to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
SECTION TEN : CIVIL WORKS						
BILL NO. 1 : SITE CLEARANCE						
1	PSC 8.2.1	Clear and grub Site	ha	1		
2		Reclear surfaces (provisional) (where ordered by Engineer)	ha	1		
3		Demolish and remove all unreinforced concrete and unreinforced concrete structures, including existing redundant buildings	Item	1		
4		Take down existing fences Store on site and replace	m	200		
5		Demolish and remove all reinforced concrete and reinforced concrete structures, including existing redundant buildings	Item	1		
6	8.2.7	Dismantle and remove stormwater pipelines regardless of diameter	m	30		
7	PSC8.2.11	Cleaning and unblocking of existing stormwater culverts regardless of diameter (provision to be made for a High Pressure Cleaning Equipment)	m	100		
8	PSC8.2.12	Cleaning out of existing stormwaters structures (manholes, catchpits, grid inlet, concrete channel)	m3	10		
9		Removal of brickwork	m3	10		
10		Removal of existing kerbs in situ or precast regardless of type.	m	500		
	8.8.4	Existing services				
11	PSD 8.3.8.1 c)	(c) Excavate by hand in soft material to expose existing services, backfill and compact.	m3	50		
Carried Forward to Summary of Section No. 10						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SECTION TEN : CIVIL WORKS				
		BILL NO. 2 : WATER RETICULATION				
		EARTHWORKS (PIPE TRENCHES)				
		Excavate in all materials for trenches, backfill compact and dispose of surplus material for pipes up to 110mm dia for depths				
1		Over 0,0m up to 1,2 m	m	100		
		MEDIUM PRESSURE PIPELINES				
		Supply, lay, joint, bed as Class C, test and disinfect mPVC Class 12 pipes				
2		a) 50mm diameter	m	100		
		Supply, lay, joint, bed as Class C, test and disinfect 150 mm is to be of heavy grade black piping to SANS 62.				
		Galvanized Steel Pipe, protected against corrosion with two layers of fully overlapping Denso wrap or equally approved				
3		b) 110mm diameter (Galvanised Steel fire protection pipe)	m	100		
	8.2.2	SPECIALS AND FITTINGS				
		Fittings form PVC Class 12 pipes				
		Bends				
4	8.2.2	50 mm dia x 11,25 deg	No.	1		
5	8.2.2	50 mm dia x 22.5 deg	No.	1		
		Tees				
6		50 mm x 50 mm dia	No.	1		
		Reducers				
7		50 mm x 25 mm dia	No.	2		
		Fittings for Galvanized Steel Pipe				
		Bends				
8	8.2.2	110 mm dia x 11,25 deg	No.	1		
9	8.2.2	110 mm dia x 22.5 deg	No.	1		
		Tees				
10		110 mm x 110 mm dia	No.	1		
		Reducers				
11		110 mm x 50 mm dia	No.	1		
	8.2.3 PSL 8.2.17	VALVES Supply in valve box, joint, including cut pipes where necessary, test, flanged Class 16 AVK RSV gate valves				
12		50 mm dia	No.	3		
13		100 mm dia	No.	3		
	8.2.3	HYDRANTS				
14		Supply and install, joint, including cut pipes where necessary, test fire hydrants	No.	1		
	8.2.13 PSL 5	VALVE CHAMBERS AND MANHOLES				
15		a) Valve chambers to SANS Drawing L-1	No.	2		
	8.2.11	ANCILLARIES				
16	PSL 8.2.11 1200 LB	Thrust blocks to eThekweni Standard Drawing No 38584 in 15 MPa/19 concrete	m³	20		
		PROVISION OF BEDDING				
	PSLB 8.2.2.3	Supply of bedding by importation from commercial sources				
17	(a)	Selected granular material	m³	635		
18	(b)	Selected fill material	m³	465		
	1200 LF PSLF	ERF CONNECTIONS				
		Erf connections complete with saddles, ferrules, bends, tees, reducers, pipework, endcaps and markers (meter and meter box measured elsewhere) to eThekweni Standard Drawing No. 38585				
19	PS LF 8.2.1	Single 25mm connection size with leading up to 16 m	No.	151		
	8.2.3	Extra over item 19 for supply and install of additional length of POLYCOP pipe leading including excavation, bedding and backfilling, testing, etc.				
20		25mm dia	m	2660		
		Carried Forward to Summary of Section No. 10				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION TEN : CIVIL WORKS</u>				
		<u>BILL NO. 3 : SEWERS RETICULATION</u>				
		<u>EXCAVATIONS</u>				
1		Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: up to 160 mm diam. for total trench depth not exceeding 1m	m3	50		
2		Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: up to 160 mm diam. for total trench depth: Exceeding 1m but not exceeding 2m.	m3	120		
	8.3.5	<u>Existing Services that Intersect or Adjoin a pipe trench</u>				
		<u>a) Services that intersect a trench</u>				
3		i) Watermains up to 110mm diameter	No	2		
4		ii) Stormwater pipe up to 375mm diameter	No	1		
5		iii) Telkom Cables	No	1		
6		iv) Electricity cables	No	3		
		<u>b) Services that adjoin a trench</u>				
7		i) Watermains up to 110mm diameter	m	30		
8		ii) Telkom Cables	m	200		
9		iii) Electricity cables	m	10		
		<u>BEDDING</u>				
		<u>PROVISION FOR BEDDING</u>				
		<u>c) Commercial sources (Provisional)</u>				
10		1) Selected granular material	m3	30		
11		2) Selected fill material	m3	60		
		<u>PIPEWORK</u>				
12		Supply, lay, joint, bed Class C and test sewer pipes 160 mm diameter, class 34 uPVC	m	40		
13		Supply, lay, joint, bed Class C and test sewer pipes 110 mm diameter, class 34 uPVC	m	130		
		<u>MANHOLES</u>				
14		Manholes complete with over and frame, for depth up to 1m	No	8		
15		Manholes complete with over and frame, for depths over 1m and up to 1,5m	No	11		
16		Extra-over for heavy duty cast iron cover and frame in areas subjected to traffic	No	2		
		<u>ERF CONNECTIONS</u>				
17		110 mm, 1 m long, to sewers up to 160mm	No	4		
18		110 mm, built into manhole	No	3		
		Carried Forward to Summary of Section No. 10				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION TEN : CIVIL WORKS</u>				
		<u>BILL NO. 4 : STORMWATER DRAINAGE</u>				
		<u>EXCAVATIONS</u>				
1		For precast half round channel open for total depth not exceeding 0.6m For pipe up to 525 mm diam. for total trench depth: Exceeding but not exceeding	m3	180		
2		0,0 m 1.0 m	m	10		
3		1,0 m 2,0 m	m	150		
4		2,0 m 3,0 m	m	100		
5		Excavate and dispose of unsuitable material from trench bottom (Provisional)	m3	40		
	8.3.5	<u>Existing Services that Intersect or Adjoin a pipe trench</u>				
		<u>a) Services that intersect a trench</u>				
6		i) Sewer pipe up to 150mm Diameter	No	1		
7		ii) Watermains up to 110mm diameter	No	2		
8		iii) Telkom Cables	No	1		
9		iv) Electricity cables	No	1		
		<u>b) Services that adjoin a trench</u>				
10		i) Sewer pipe up to 150mm Diameter	m	30		
11		ii) Watermains up to 110mm diameter	m	30		
12		iii) Telkom Cables	m	200		
13		iv) Electricity cables	m	10		
		<u>PROVISION FOR BEDDING</u>				
		<u>c) Commercial sources (Provisional)</u>				
14		1) Selected granular material	m3	50		
15		2) Selected fill material	m3	160		
		<u>PIPES</u>				
16		Supply, handle, lay, bed on Class C with spigot and socket concrete pipes 375mm diameter Class 100D	m	100		
17		Supply, handle, lay, bed on Class C with spigot and socket concrete pipes 450 mm diameter Class 100D	m	40		
18		Supply, handle, lay, bed on Class C with spigot and socket concrete pipes 525 mm diameter Class 100D	m	122		
		<u>OPEN CHANNELS</u>				
19		Construct precast half round channels 450mm wide	m	160		
		<u>MANHOLES</u>				
		Construct complete with covers and frames as per Dwg. J4200_06-GIB-SW-CV-DR-500				
20		Construct complete with covers and frames not exceeding 1,5m deep	No	5		
21		Construct complete with covers and frames exceeding 1,5m not exceeding 2,5m	No	5		
		<u>CATCHPITS</u>				
		Construct complete with grid inlets as per Dwg. J4200_06-GIB-SW-CV-DR-500				
22		i) 0.0 m 1.0 m	No	2		
23		i) 1.0 m 2,0 m	No	16		
24		ii) 2,0 m 3,0 m	No	5		
		Construct complete single inlet as per Dwg. No. J4200_06-GIB-SW-CV-DR-500 for depths over and				
25		i) 0.0 m 1.5 m	No.	2		
26		ii) 1.5 m 2.5m	No.	2		
		Construct complete double inlet as per Dwg. J4200_06-GIB-SW-CV-DR-500				
27		i) 1.5 m 2.5m	No.	5		
		Carried Forward to Summary of Section No. 10				

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ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION TEN : CIVIL WORKS</u>				
		<u>BILL NO. 5 : ROADWORKS</u>				
		<u>EARTHWORKS (ROADS, SUBGRADE and WEARING COURSE)</u>				
		<u>EARTHWORKS</u>				
1		Cut to fill and compact to 93% mod. AASHTO	m3	300		
2		Cut to spoil or stockpile as instructed by the Engineer	m3	2 500		
		<u>OVERHAUL</u>				
3		Extra-over item 2 for hauling material in excess of the haul of 10,0 km.	m3	200		
		<u>TREATMENT OF ROAD-BED</u>				
4		Road-bed preparation and compaction of material to 93% Mod. AASHTO maximum density	m3	700		
		<u>SELECTED SUBGRADE</u>				
5		Construct 150mm G7 Gravel Subgrade with material from commercial source and compact to 95 % Mod.AASHTO maximum density.	m3	700		
		<u>SUBBASE</u>				
6		Construct 150mm thick G5 subbase with material from commercial sources and compact to 98% Mod.AASHTO density.	m3	700		
		<u>BASE</u>				
7		Construct 150mm thick G2 base with material from commercial sources and compact to 98% Mod.AASHTO density	m3	700		
		<u>ASPHALT BASE AND SURFACING</u>				
8		Prime using MC-30 cutback bitumen @ 0.87 l/m ²	m ²	5 000		
9		40mm thick asphalt premix; fine continuously graded hotmix, 60/70 penetration grade bituminous binder.	t	500		
		<u>CONCRETE KERBING AND CHANNELLING</u>				
10		Precast kerbing to SABS 927: Figure 6 Barrier kerb with 300mm channel including concrete base, backing and haunching as per standard detail drawing ,with radius not exceeding 20m	m	100		
11		Precast kerbing to SABS 927: Figure 6 Barrier kerb with 300mm channel including concrete base, backing and haunching as per standard detail drawing with radius over 20m and straight section	m	400		
12		Precast kerbing to SABS 927: Figure 6 Barrier kerb with 150mm fillet including concrete base, backing and haunching as per standard detail drawing with radius not exceeding 20m	m	100		
13		Precast kerbing to SABS 927: Figure 6 Barrier kerb with 150mm fillet including concrete base, backing and haunching as per standard detail drawing with radius exceeding 20m and a straight section	m	400		
14		Figure 12 Edge block including concrete backing and haunching	m	600		
	SABS 1200MM	<u>ANCILLARY ROADWORKS</u>				
		<u>Road Markings</u>				
		<u>Non-reflectorized paint applied at nominal rate of 0.42/m²</u>				
15		a) White unbroken lines 100mm wide	m	1 000		
		<u>Breaking up existing Pavement layers</u>				
16		Saw cutting asphalt and concrete per linear meter to a maximum depth of 500mm:	m	100		
		Carried Forward to Summary of Section No. 10				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>SECTION TEN : CIVIL WORKS</u>						
<u>BILL NO. 6 : SEGMENTED PAVING</u>						
<u>EARTHWORKS, SUBGRADE and SUBBASE</u>						
1	DM8.3.3a	Scarify and recompact 150mm of in-situ material to 93% Mod AASHTO density.	m3	150		
<u>CONSTRUCT PRECAST CONCRETE SEGMENTED PAVING</u>						
	8.2.2	<u>complete.</u>				
2		a) 60mm thick segmental paving block paving complete	m3	1 000		
Carried Forward to Summary of Section No. 10						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>SECTION TEN : CIVIL WORKS</u>				
		<u>BILL NO. 7 : PROVISIONAL SUMS</u>				
		<u>Tests</u>				
		<u>WINDSCREEN TESTING FACILITY</u>				
1		Provide the provisional sum of R20 000,00 (Twenty Thousand Rand) for additional tests required by the engineer	Item	1	20 000,00	
2		Profit	%IT			
3		Attendance	%IT			
		<u>BUDGETARY ALLOWANCES</u>				
		<u>The following work to be executed by the contractor and paid for in terms of the relevant clauses of the conditions of contract</u>				
4		Provide the budgetary allowance of R100 000,00 (One Hundred Thousand Rand) for repair of water pipe leakages	Item	1	100 000,00	
Carried Forward to Summary of Section No. 10						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		<u>SECTION SUMMARY -CIVIL WORKS</u>		Page No		
1		SITE CLEARANCE	Page	132		
2		WATER RETICULATION	Page	133		
3		SEWERS RETICULATION	Page	134		
4		STORMWATER DRAINAGE	Page	135		
5		ROADWORKS	Page	136		
6		SEGMENTED PAVING	Page	137		
7		PROVISIONAL SUMS	Page	138		
Carried to Final Summary						

Carried Forward to Summary of Section No. 11

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : HVAC</u>				
		<u>NEW HVAC SYSTEM</u>				
		<u>INTERNAL AIR-CONDITIONING EQUIPMENT INSTALLATION</u>				
		This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, valves and connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation				
		<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule and HVAC specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>VRF Air Conditioning Units</u>				
		Installation of internal VRF units, consisting of evaporator, installed complete including condensate pump, moulded pipe cover housing, control cabling, as well as wired remote control station.				
		<u>VRF Ceiling Cassette Units</u>				
1		ACC/01	No	3		
2		ACC/02	No	4		
3		ACC/03	No			Rate Only
4		ACC/04	No	2		
		<u>VRF In Ceiling Hide away Units with plenums front and rear</u>				
5		ACD/01	No	0		Rate Only
6		ACD/02	No	0		Rate Only
7		ACD/03	No	3		
8		ACD/04	No	3		
		<u>VRF Air Conditioning Controllers</u>				
		Installation of VRF system controllers, including all wiring, both power and control as required for:				
9		WC/01	No	6		
10		WC/02	No	9		
11		CC/01	No	1		
		<u>VRF Refrigerant System</u>				
		Installation of complete VRF refrigerant distribution system to ensure that the system can perform VRF heat recovery to all units within the separate buildings. Each Building will be a separate system as dictated by the building and the required outdoor installation equipment, including				
		Installed VRF refrigerant master control box fully installed in ceiling void complete with refrigerant connections, for control of multiple indoor unit refrigeration flow. To include all electrical and control cable connections.				
12		8 port	No			Rate Only
13		12 port	No	2		
		Complete Refrigerant pipework installation including connections to AC units, Refrigerant control boxes and outdoor units. This is to include all joints, fittings, splitters, etc. for a complete and working system without leaks in the following buildings:				
14		B03 - Office Building	Item	1		
		Complete Refrigerant pipework insulation installation including, nitrile rubber insulation system, installed on the refrigerant pipework INS/03, installed on				
15		16Ø	m	200		
16		22Ø	m	100		
17		28Ø	m	100		
		<u>Pipework Support</u>				
		Complete refrigerant pipework support system required for the entire refrigerant pipework installation in all the buildings, comprising Galvanised wire mesh cable basket fully installed and hanged, not more than 1m below a concrete soffit / roof structure.				
18		100mm wide	m	45		
19		200mm wide	m	150		
20		400mm wide	m	40		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		Complete refrigerant pipework support system required for the entire refrigerant pipework installation in all the buildings, comprising Galvanised wire mesh cable basket fully installed and hanged, more than 1m below a concrete soffit / roof structure.				
21		100mm wide	m	15		
22		200mm wide	m	20		
23		400mm wide	m	10		
		Complete refrigerant pipework support system fittings comprising galvanised wire mesh cable basket fittings, including bends, junctions, 4 way junctions, etc.				
24		100mm wide	No	15		
25		200mm wide	No	35		
26		400mm wide	No	10		
		<u>Direct Expansion Refrigerant Systems</u>				
		Installation of complete Direct Expansion (Split type) air conditioning system to several spaces and rooms. Each system comprises the complete and working installation of the:				
		Outdoor condenser unit including supports and brackets, cable to connect to local isolator, refrigerant pipework into the building mounted to cable basket mounted to the wall for the entire external run.				
		Indoor evaporator unit installed and hung from soffit/roof structure, including supports and brackets, installed and connected cable to local isolator, refrigerant pipework from the wall to the internal unit mounted to cable basket hung from the soffit/roof structure.				
		Indoor hard wired controller installed and fully cabled back to the AC unit				
27		ACS/01 with an external pipework un of less than 3 and an internal pipework run of less that 5m	Item	0		
28		ACS/02 with an external pipework un of less than 3 and an internal pipework run of less that 5m	Item	2		
29		ACS/03 - server room with an external pipework un of less than 3 and an internal pipework run of less that 5m	Item	2		
		<u>EXTERNAL AIR-CONDITIONING SYSTEMS INSTALLATION</u>				
		This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, valves and connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation				
		Outdoor VRF condensing unit complete with all fans, compressors, refrigeration circuitry, piping connections, anti-vibration mountings, supports, cabling, sensors, safeties and controls.				
30		VRF/01	No	1		
		<u>SUPPLY AND EXTRACT SYSTEMS</u>				
		This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, dampers, filters, attenuators and connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation				
		<u>REFER TO J42000*6-GIB-ME-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		Supply Air Fans				
		In line Fan/attenuator/filter bank assemblies shall be deemed to include fan, attenuators on either side of fan, filter bank comprising removable, cleanable filters (pleated and bag filters) in line in casing for easy removal, connection to ductwork, fans, attenuators, filter bank, fully installed including supports and anti-vibration mountings from the structure, connections to, and including two attenuators per fan, flexible connections to ductwork, and all electrical connections.				
31		SF/01 with attenuators (ATTC/XX) and filter box (FB/XX)	Item	1		
32		SF/02 with attenuators (ATTC/XX) and filter box (FB/XX)	Item	1		
		Controls for Fans deemed to be included by virtue of requirements in the schedule				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
<u>Extract air fans</u>						
In line axial supply fan and attenuator assemblies shall be deemed to include fan, attenuators on either side of fan, connection to ductwork, fans, attenuators, fully installed including supports and anti-vibration mountings from the structure, connections to, and including two attenuators per fan, flexible connections to ductwork, and all electrical connections.						
35		EF/01 with attenuators (ATTC/XX)	Item	1		
36		EF/02 with attenuators (ATTC/XX)	Item	3		
37		EF/03 with attenuators (ATTC/XX)	Item	1		
38		EF/04 with attenuators (ATTC/XX)	Item	1		
<u>Kitchen extract fans</u>						
Fully installed including supports and anti-vibration mountings from the structure, connections and all electrical connections.						
39		KEF/01	No	1		
Fully installed roof extractor fan with flashing as required						
40		REF/01 installed in,	No			Rate Only
<u>SMOKE MANAGEMENT</u>						
<u>Smoke Management</u>						
This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, connections, flashing, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation						
<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule and HVAC specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>						
<u>Installation of the exhaust fan systems roof structure.</u>						
Installation will include for the above as well any and all scaffolding and support required to install the units.						
This will include all the requirements as scheduled for the complete and working installation of:						
41		EF/05 in warehouse	No	0		Rate Only
42		Attenuator	No	0		Rate Only
43		Plenum with access door, connection and end pieces, bird mesh, etc.	No	0		Rate Only
44		SKF/01 in lifting shop	No	11		
45		Attenuator	No	11		
46		Plenum with access door, connection and end pieces, bird mesh, etc.	No	11		
<u>Installation of the control panel and links to fire systems</u>						
<u>This will include the installation, connections and all scheduled requirements of the:</u>						
<u>Fan Control Panel</u>						
47		FCP/01 in warehouse	No	0		Rate Only
48		FCP/01 in lifting shop	No	1		
<u>Cabling - FP 120</u>						
49		including installation, connecting, glanding and finishing	m	900		
<u>CO2 sensor</u>						
50		installed at low level including connections to control panel	No	6		
<u>Temperature sensor</u>						
51		installed at low level including connections to control panel	No	6		
<u>Humidity Sensor</u>						
52		installed at low level including connections to control panel	No	1		
<u>Installation of Louvres</u>						
53		Intslall Smoke louvre SL/XX - 900x800	No	33		
54		Intslall Smoke louvre SL/XX - 1200x1200	No	15		
<u>Installation of the control panel and links to fire systems</u>						
<u>This will include the installation, connections and all scheduled requirements of the:</u>						
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Smoke Control Panel</u>				
55		SMCP/01	No	1		
		<u>Cabling - FP 120</u>				
56		including installation, connecting, glanding and finishing	m	780		
		<u>Fully installed roof extractor fan with flashing as required</u>				
57		REF/01 installed in,	No			Rate Only
		<u>DUCTWORK</u>				
		<u>This includes supply, delivery and installation of all ductwork fully installed, including associated fittings, t junctions, shoe connections, transition and standard connections and spigots, including jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule and HVAC specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Standard Ductwork</u>				
		<u>Rectangular low pressure galvanised sheet metal ducting installed suspended from concrete soffit with underside of duct not exceeding 1m below soffit</u>				
58		300 x 300	m	3		
59		400 x 400	m	9		
60		500 x 400	m	6		
61		600 x 400	m	6		
62		700 x 400	m	4		
63		800 x 400	m	4		
64		900 x 400	m	6		
65		1000 x 400	m	3		
		<u>Installation of fittings as required, including reducers, radius bends, square bends, transformations, spigots, branches, shoe pieces, tees for ductwork:</u>				
66		300 x 300	No	3		
67		400 x 400	No	21		
68		500 x 400	No	9		
69		600 x 400	No	7		
70		700 x 400	No	5		
71		800 x 400	No	3		
72		900 x 400	No	3		
73		1000 x 400	No	15		
		<u>Round low pressure galvanised sheet metal ducting installed suspended from wooden or steel roof truss system it with underside of duct not exceeding 1m below soffit</u>				
74		160Ø	m	25		
75		200Ø mm diameter	m	25		
76		250Ø mm diameter	m	30		
77		315Ø mm diameter	m	40		
		400Ø mm diameter	m	55		
78		500Ø mm diameter	m	3		
79		630Ø mm diameter	m	1		
80		800Ø mm diameter	m	5		
		<u>Installation of fittings as required, including reducers, radius bends, square bends, transformations, spigots, branches, shoe pieces, tees for ductwork:</u>				
81		160Ø mm diameter	No	10		
82		200Ø mm diameter	No	20		
83		250Ø mm diameter	No	75		
84		315Ø mm diameter	No	40		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
85		400Ø mm diameter	No	75		
86		500Ø mm diameter	No	10		
87		630Ø mm diameter	No	3		
88		800Ø mm diameter	No	3		
		<u>Round flexible ducting installed, including connection at either end of the flexible ductwork and jointing.</u>				
89		160Ø mm diameter	m	3		
90		200Ø mm diameter	m	15		
91		250Ø mm diameter	m	10		
92		315Ø mm diameter	m	10		
93		400Ø mm diameter	m	1		
94		500Ø mm diameter	m	1		
		<u>Kitchen Extract Ductwork</u>				
		<u>Rectangular "Black" low pressure sheet metal ducting for high heat and grease kitchen applications installed suspended from concrete soffit with underside of duct not exceeding 1m below soffit</u>				
95		300 x 300	No			Rate only
96		400 x 400	No			Rate only
		<u>Ductwork Insulation</u>				
		<u>Insulation fully installed on all supply air ductwork as well as all ductwork external to building, including insulation on all bends, joints, T-junctions and related fittings 24 kg/m3 density mineral wool insulation</u>				
		<u>The insulation shall be glued to the ducting and sealed along all longitudinal and transverse overlapping joints with approved adhesive to provide a vapour seal. The overlapping joints shall be approximately 75 mm wide. The edges of overlaps are to be taped down with self-adhesive aluminium tape no less than 50 mm wide.</u>				
		<u>All insulation installed externally and in Plant Rooms shall be protected with 0.4 mm thick galvanised steel sheet metal cladding, which shall be applied directly over the insulation. The cladding shall be secured by means of removable and re-usable stainless steel bands every 330 mm. Self-tapping screws will not be accepted. No dents or damage to the sheet metal cladding will be accepted.</u>				
97		Ductwork insulation installed at 35mm thick with foil tape	m2	30		
98		Ductwork insulation installed at 25mm thick with foil tape	m2	200		
99		Ductwork insulation installed at 35mm thick with foil tape and galvanised sheet steel protection	m2	50		
100		Ductwork insulation installed at 25mm thick with foil tape and galvanised sheet steel protection	m2	50		
		<u>GRILLES, DIFFUSERS AND LOUVRES</u>				
		<u>This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule and HVAC specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Install Grilles and Valves</u>				
101		DG/01	No	3		
102		DG/02	No	3		
103		DG/03	No	3		
104		SAD/01	No	5		
105		SAD/02	No			Rate only
106		SAD/03	No	15		
107		RAD/01	No			Rate only
108		RAD/02	No	6		
109		RAD/03	No	3		
110		LSD/01	No	18		
111		EAV/02	No	20		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
112		EAV/03	No	3		
		<u>Install Weather louvre WL/XX</u>				
113		400x400	No	3		
114		600x400	No	6		
115		700x500	No	2		
116		1000x400	No	6		
117		1200x1200	No	9		
118		2000x1000	No	8		
		ANCILLARIES				
		<u>This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, and connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule and HVAC specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>VCD/XX,</u>				
		<u>Installed in Rectangular low pressure galvanised sheet metal ducting:</u>				
119		300 x 300	No	5		
120		400 x 400	No	5		
121		500 x 400	No	2		
122		600 x 400	No	2		
123		700 x 400	No	1		
124		800 x 400	No	6		
125		900 x 400	No	6		
126		1000 x 400	No	2		
		<u>Installed in round galvanised sheet metal ducting:</u>				
127		160Ø mm diameter	No	15		
128		200Ø mm diameter	No	15		
129		250Ø mm diameter	No	2		
130		315Ø mm diameter	No	2		
131		400Ø mm diameter	No	1		
132		500Ø mm diameter	No	5		
133		630Ø mm diameter	No	5		
134		800Ø mm diameter	No	1		
		FD/XX				
		<u>Installed in Rectangular low pressure galvanised sheet metal ducting:</u>				
135		300 x 300	No	1		
136		400 x 400	No	1		
137		500 x 400	No	1		
138		600 x 400	No	1		
139		700 x 400	No	3		
140		800 x 400	No	2		
141		900 x 400	No	2		
142		1000 x 400	No	1		
		<u>Installed in round galvanised sheet metal ducting:</u>				
143		160mm Diameter	No	1		
144		200mm Diameter	No	1		
145		250mm Diameter	No	1		
146		315mm Diameter	No	1		
147		400mm Diameter	No	1		
148		500mm Diameter	No	1		
		Carried Forward				
						Rate only

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
149		630mm Diameter	No			Rate only
150		800mm Diameter	No			Rate only
		EXISTING HVAC SYSTEMS				
		INVESTIGATIONS				
		<u>This includes for the investigation and detailed verification of the status and functionality of the current water systems installed on site.</u>				
		<u>Each AC units, grille, louvre, ductwork system will be checked for operation, noise, leaks, connection stability and fastness as well as whether or not the system and equipment is of sufficient standard and functionality to last an addition 20 to 40 years</u>				
		<u>Investigations to be priced for:</u>				
151		Warehouse	Item	0		
152		Chemical Store	Item	0		
153		Office	Item	1		
154		Lifting Shop	Item	1		
		REFURBISHMENT OF EXISTING				
		Demolition and Removal				
		<u>This includes careful removal of equipment, ensuring limited damage to surrounding equipment, scrapping of equipment, including delivery to scrap yard in line with PRASA guidelines, and making good of area damaged.</u>				
		<u>Removal may be required in the following areas:</u>				
155		Warehouse	Item	0		
156		Chemical Store	Item	0		
157		Office	Budgetary Allowance	1	10 000,00	
158		Lifting Shop	Budgetary Allowance	1	10 000,00	
		Refurbish or Installation of New				
159		This includes supply, delivery and installation of all equipment, fully installed, including associated fittings, valves and connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation	Budgetary Allowance	1	650 000,00	
		Carried Forward to Summary of Section No. 11				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : LIFTS</u>				
		<u>LIFT INSTALLATION</u>				
		<u>Lift installation price will include for the final design and coordination with the structure, the supply delivery, installation, commissioning, testing and handing over of a fully functional and operation lift.</u>				
1		Lift 1 - 2 person universal access lift	SUM	1		
Carried Forward to Summary of Section No. 11						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : COMPRESSOR SYSTEMS</u>				
		<u>COMPRESSOR INSTALLATION</u>				
		<u>INVESTIGATION AND NEW INSTALLATION</u>				
1		Investigate and review existing compressor system	Item	1		
		Provision for servicing of existing air compressors and compressor tanks.	Item	1		
		Connection of the new system to the existing system	Item	1		
		<u>Primary supply compressors and all associated equipment in the compressor room.</u>				
2		Install CAS/01	Item			Rate only
		<u>Air compressor Primary and secondary pipework system.</u>				
		<u>REFER TO J42000-B-06-05-MEC-SCH-0001-01 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>This will comprise CAP/01 pipework, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>Install CAP/01 pipework and allow for 1no. fitting or connector and 1 no bracket per m length of pipe.</u>				
3		158	m			Rate only
4		100	m			Rate only
5		80	m	120		
6		63	m			Rate only
7		50	m			Rate only
8		40	m	120		
9		25	m	180		
10		20	m	180		
		<u>Install Isolation Valves:</u>				
11		158	No			Rate only
12		100	No			Rate only
13		80	No	10		
14		63	No			Rate only
15		50	No			Rate only
16		40	No	40		
17		25	No	60		
18		20	No	60		
		<u>Install Junctions:</u>				
19		80 / 20	No	60		
20		63 / 20	No	60		
21		50 / 20	No	60		
22		40 / 20	No			Rate only
23		25 / 20	No			Rate only
		<u>S-Bend</u>				
24		25	No	60		
25		20	No	60		
		<u>Wall mounted bracket</u>				
26		25	No	60		
27		20	No	60		
		<u>Threaded wall mounted nipple</u>				
28		20	No	60		
29		Pressure gauges	No	6		
30		Filter / Regulator / Lubricator	No	60		
		<u>Additional Equipment</u>				
31		10m Flex coil hoses - screw end and nipple connector	No	20		
32		Standard Air hose - screw end and nipple connector	m			Rate only
33		Air hose retarctor wheel	No	40		
		Carried Forward to Summary of Section No. 11				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : BUILDERS WORK</u>				
		<u>BUILDERS WORK IN CONJUNCTION WITH MECHANICAL SERVICES</u>				
		<u>Over and above the trenching, laying and backfilling mentioned and required for the Mechanical Bill of Quantities, the contractor is to make allowance for the following as contingency.</u>				
		<u>Holes in concrete</u>				
		<u>Creating of penetration in horizontal and vertical concrete walls for pipework and ductwork and filling and making good of hole once services have been installed. All holes in concrete will be fire stopped.</u>				
		<u>Using rectangular void formers of depth <=300mm of size:</u>				
1		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No			Rate only
2		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No			Rate only
3		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
4		Width or height exceeding 1,35m and not exceeding 2,1m	No			Rate only
5		Width or height exceeding 2,1m	No	10		
		<u>Using Circular void formers of depth <= 300mm of size:</u>				
6		250Ø mm diameter	No			Rate only
7		200Ø mm diameter	No			Rate only
8		160Ø mm diameter	No			Rate only
9		110Ø mm diameter	No			Rate only
		<u>By means of coring <=300mm depth and size:</u>				
10		250Ø mm diameter	No	10		
11		200Ø mm diameter	No	10		
12		160Ø mm diameter	No	20		
13		110Ø mm diameter	No	20		
		<u>Holes in Brickwork</u>				
		<u>Creating of penetration in brick or blockwork walls for pipework and ductwork and filling and making good of hole once services have been installed.</u>				
		<u>Where making good does not include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
14		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	10		
15		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No	5		
16		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
17		Width or height exceeding 1,35m and not exceeding 2,1m	No			Rate only
18		Width or height exceeding 2,1m	No			Rate only
		<u>Where making good does include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
19		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	5		
20		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No	3		
21		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
22		Width or height exceeding 1,35m and not exceeding 2,1m	No			Rate only
23		Width or height exceeding 2,1m	No			Rate only
		<u>Installation of infratruture for compressed air system</u>				
		<u>Provide, fabricate, galvanise and install freestanding 4.5m clear high gantry for compressed air pipework between buildings comprising</u>				
		150 × 150 × 6 mm SHS columns extending 5 m above finished ground level. Columns at 6 m maximum centres, resulting in 7 support frames Columns founded in 600 × 600 × 1 000 mm deep reinforced concrete foundations. 200 × 100 × 6 mm RHS cross-members spanning between columns. 450 mm wide heavy-duty hot-dip galvanised cable ladder installed continuously along the gantry length. All structural steel, brackets, fasteners and supports to be hot-dip galvanised after fabrication. Contractor to provide all excavation, trenching, backfilling, reinforcement, concrete, steelwork, lifting equipment, erection, galvanising, fixings, making good and all ancillary works necessary for a complete installation.				
24		Minimum clearance under gantry cross-members to be 4.5 m above finished road level.	m	30		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Powder coating</u>				
		<u>All ventilation related containmnet including conduit, cable tray, cable basket and all other containment systems to be galvanised and powder coated yellow - including relevant bushes, locknuts, couplings, galvanized saddles, etc.</u>				
25		powder coating of any and all ventilation related containment systems described in this BOQ or the relevant schedules	No	1		
Carried Forward to Summary of Section No. 11						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 6 : ELECTRICAL WORK</u>				
		<u>ELECTRICAL WORK IN CONJUNCTION WITH MECHANICAL SERVICES</u>				
		<u>ELECTRICAL CABLING, GLANDING, ETC.</u>				
		<u>Over and above the cabling requirements mentioned previously and in the Equipment Specification documents, the Contractor is to allow for the following electrical requirements associated with the Mechanical Equipment</u>				
		<u>This includes supply, delivery and installation of all cables and containment, fully installed, including associated fittings, connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>Cabling from Mechanical Equipment to the Local Isolator provided by the electrical contractor</u>				
		<u>Supply and fixing on surface, cable tray, trunking or false ceiling of 600/1000Volt grade PVC/SWA/PVC copper cored cables (unless otherwise specified)</u>				
		<u>4C SWA PVC cables</u>				
1		4mm2	m	20		
2		6mm2	m	20		
3		10mm2	m			Rate only
		<u>Termination of Cables</u>				
		<u>Cable terminations to include for the supply and fitting of the cable gland, making off of the cable to the glandplate, switchgear or appliance</u>				
4		4c x 4mm2	No	10		
5		4c x 6mm2	No	10		
6		4c x 10mm2	No			Rate only
		<u>Trunking</u>				
7		P8100 Galvanised steel trunking installed, surface fixed to wall, unistrut, roof structure or any exposed surface suitable to fix trunking including galvanised biscuit tin lid.	m	150		
8		90 degree mitre bend for trunking	No	20		
9		90 degree radius bend for trunking	No	20		
10		Tee junction for trunking	No	20		
		<u>Cable Basket, Welded Wire Mesh</u>				
		<u>Galvanised welded wire mesh Medium duty cable basket supported from roof trusses and/or fixed to walls complete with hangers, splices, joiners, fixing etc.</u>				
11		100mm wide tray	m	100		
12		100mm wide 90° bend	No	20		
13		100mm tray tee junction units	No	20		
		<u>S.A.B.S. approved PVC conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>				
14		25 mm	m	100		
15		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits chased, (making good to be allowed for elsewhere)</u>				
16		25 mm	m	20		
17		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits fittings, including connection to conduit length and ancillaries required for fixing</u>				
18		25 mm	No	50		
19		32 mm	No			Rate only
		<u>S.A.B.S. approved PVC conduits boxes, with lid installed, including connections to conduit</u>				
		<u>Circular boxes with 2 connections</u>				
20		25 mm	No	20		
21		32 mm	No			Rate only
		<u>Circular boxes with 3 connections</u>				
22		25 mm	No	20		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
23		32mm <u>Circular boxes with 4 connections</u>	No			Rate only
24		25mm	No	20		
25		32mm <u>S.A.B.S. approved galvanised steel conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>	No			Rate only
26		25 mm	m	50		
27		32 mm <u>S.A.B.S. approved galvanised steel conduits chased, (making good to be allowed for elsewhere)</u>	m			Rate only
28		25 mm	m	20		
29		32mm <u>S.A.B.S. approved galvanised steel conduits fittings, including connection to conduit length and ancillaries required for fixing</u>	m			Rate only
30		25 mm	No	20		
31		32mm <u>S.A.B.S. approved galvanised steel conduits boxes, with lid installed, including connections to conduit</u> <u>Circular boxes with 2 connections</u>	No			Rate only
32		25 mm	No	20		
33		32 mm <u>Circular boxes with 3 connections</u>	No			Rate only
34		25mm	No	20		
35		32mm <u>Circular boxes with 4 connections</u>	No			Rate only
36		25mm	No	20		
37		32mm	No			Rate only
Carried Forward to Summary of Section No. 11						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		<u>SECTION SUMMARY -MECHANICAL WORKS</u>		Page No		
1		PRELIMINARIES AND GENERAL	Page	140		
2		HVAC	Page	147		
3		LIFTS	Page	148		
4		COMPRESSOR SYSTEMS	Page	149		
5		BUILDERS WORK	Page	151		
6		ELECTRICAL	Page	153		
Carried to Final Summary						

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THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : NEW DRAINAGE SYSTEMS</u>				
		<u>NEW DRAINAGE SYSTEMS</u>				
		<u>ABOVE GROUND AND BELOW GROUND PIPEWORK</u>				
		<u>Installation of below ground pipework</u>				
		<u>This includes all pipework for the drainage system including range pickups, vent pipework, and all other pipework required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>This includes all associated connections, W/C connectors, traps, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000-B-06-05-WET-SCH-0001-01 equipment schedule and drainage and water specifications for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Below Ground Class II uPVC pipe:</u>				
1		110 mm diameter installed in trench up to 1m deep,	m	200		
2		110 mm diameter installed in trench from 1m deep up to 2m deep	m	100		
		<u>Below Ground Class II uPVC fittings:</u>				
3		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for 110mm diameter	No	60		
4		for direction changes and access within the pipework including bends and others for 110 mm diameter	No	100		
		<u>Installation of above ground pipework</u>				
		<u>This includes all above ground pipework around the site including stacks, drains, vent pipework, and all other pipework required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>HDPE pipework with welded connections:</u>				
5		110Ø mm diameter	m	1		
6		56mm diameter	m	1		
		<u>HDPE fittings with welded connections:</u>				
7		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for 110mm diameter	No	1		
8		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for 56 mm diameter	No	1		
9		for direction changes within the pipework including bends as well as other in line fittings including end caps: 110 mm diameter	No	1		
10		for direction changes within the pipework including bends as well as other in line fittings including end caps: 56mm diameter	No	1		
		<u>uPVC pipework with welded connections:</u>				
11		110Ø mm diameter	m	100		
12		50Ø mm diameter	m	220		
		<u>uPVC fittings with welded connections:</u>				
13		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for: 110 mm diameter	No	60		
14		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for: 50 mm diameter	No	150		
15		for direction changes within the pipework including bends as well as other in line fittings including end caps: 110 mm diameter	No	60		
16		for direction changes within the pipework including bends as well as other in line fittings including end caps: 50mm diameter	No	150		
		<u>Installation of Sanware fittings and connections</u>				
		<u>This includes all associated connections, W/C connectors, traps, all installed, including connection to sanware item as well as connection to pipework, inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
17		Toilet connector	No	9		
18		Urinal trap / connector	No	5		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
19		Basin trap / connector	No	15		
20		Single Bowl Sink trap / connector	No	4		
21		Double Bowl Sink traps / connectors	No	4		
22		Shower drain / trap	No	4		
		DRAINAGE EQUIPMENT				
		<u>This includes all equipment fully installed, including all associated fittings and connections, 2 no. 45° bends at base, 1m of pipe and final connection to drain, all trenched, installed, backfilled, cast in and waterproofed, inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000-B-06-05-WET-SCH-0001-01 equipment schedule and drainage and water specifications for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
23		FD/1	No	5		
24		FD/2	No	10		
25		FD/3	No	1		
26		GU/1	No	7		
27		GT/1	No	1		
28		GOS/1	No	1		
29		SP/1	No	4		
30		MH/1 - 2m deep	No	5		
		CONDENSATE DRAINAGE				
		<u>This includes all pipework including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>25Ø condensate pipework will be blue pressure pipe</u>				
		<u>40Ø condensate pipe will be white uPVC pipe</u>				
		<u>Fully installed condensate connection at the In ceiling AC unit.</u>				
31		Including connection to AC unit drain outlet, 50mm deep u trap made from pipework bends and 1m of pipework at a fall towards the drain, using 250 mm diameter condensate pipework	No	2		
		<u>Fully installed condensate connection at the Cassette unit.</u>				
32		Including connection to AC unit drain outlet, 50mm deep u trap made from pipework bends and 1m of pipework at a fall towards the drain, using 250 mm diameter condensate pipework	No	16		
		<u>Fully installed condensate pipework from the AC connection installation to the drain point above the ceiling</u>				
		<u>Including pipework at a fall, all fittings (allow for 1 fitting (bend, joint, T, 45, etc.)) per m length), and final connection into drain at high level in the space, including sealing of gap between the 25Ø condensate pipe and the 40Ø drain to create a fully sealed and watertight installation, using</u>				
33		25Ø mm diameter Condensate pipework	m	100		
34		40Ø mm diameter Condensate pipework	m	200		
		<u>Fully installed and chased vertical condensate drainage pipework from above the ceiling dropping down the wall to connect to a basin/sink or drain to below</u>				
35		40Ø mm diameter uPVC pipework chased	m	35		
		PIT DRAINAGE				
		<u>This includes all equipment fully installed, including all associated fittings and final connection to drain, all trenched, installed, backfilled, cast in and waterproofed, inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000-B-06-05-WET-SCH-0001-01 equipment schedule and drainage and water specifications for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>This includes the following buildings</u> <u>Lifting Shop</u>				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Install floor drain in sump base within the pit, including all associated fittings and connections to drian pipe below, waterproofing from sump lapped into floor drain, 2 no. 45° bends at base, 1m of pipe and final connection to drain, all trenched, installed, backfilled, cast in and waterproofed, using</u>				
36		FD/4	no.	18		
		<u>Below Ground uPVC pipe:</u>				
37		110Ø:				
		<u>Installed in trench from 2m deep up to 4m deep</u>	m	605		
		<u>Below Ground uPVC fittings:</u> for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for:				
38		110Ø	no.	60		
		for direction changes within the pipework including bends as well as other in line fittings including end caps:				
39		110Ø	no.	60		
40		Encasing of pipework in concrete below pit	m	300		
		<u>Below Ground HDPE pipe:</u>				
41		110Ø: Installed in trench from 2m deep up to 4m deep	m			Rate Only
		<u>Below Ground HDPE fittings:</u> for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for:				
42		110Ø	no.			Rate Only
		for direction changes within the pipework including bends as well as other in line fittings including end caps:				
43		110Ø	no.			Rate Only
		<u>EXISTING DRAINAGE SYSTEMS</u>				
		<u>INVESTIGATIONS</u>				
		<u>This includes for the investigation and detailed verification of the status and functionality of the current drainage systems installed on site.</u>				
		<u>Included in the pricing for each area will be a CCTV investigation of the pipework to ascertain the state of the pipework internals.</u>				
		<u>Each pipe and connection will be checked for old and new leaks, connection stability and fastness as well as whether or not the pipework is of sufficient standard and functionality to last an addition 20 to 40 years</u>				
		<u>Investigations to be priced for:</u>				
44		Warehouse	Item	1		
45		Chemical Store	Item	1		
46		Office	Item	1		
47		Lifting Shop	Item	1		
		<u>PIT DRAINAGE FOR EXISTING</u>				
		<u>Existing pit drain cleaning</u>				
		<u>Existing Pit Drainage will be cleaned and made to work in all existing pits to allow water and effluent to be taken to the effluent plant</u>				
48		Open and Clean all existing pits that will be used.	No	14		
		<u>Installation Should pits and existing drainage be unsalvageable.</u>				
		<u>Provide 1 no. sump pump with float switch and controller per sump installed in the base of the existing sumps. See SP/1 above. Provide this for:</u>				
49		Existing drainage sumps that are blocked an unusable	No	6		
		<u>Cut, install pipe and make good a 200 x 200 channel in floor of shed for sump pump pipe to leave sump and flow to next sump or connect to drain. The channel, once made good will have pipe installed and will be covered using mentis grate for future access. Mentis grate will be installed in a steel corner channel cast into the channel.</u>				
50		Install channel	m	50		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Install drain line to refurbished effluent plant</u>				
		<u>This includes all pipework for the drainage system including range pickups, vent pipework, and all other pipework required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>Below Ground uPVC pipe:</u>				
51		100 mm diameter installed in trench from 2m deep up to 4m deep	m	60		
		<u>Below Ground uPVC fittings:</u>				
52		for connection to other systems and access including rodding eyes, access junctions, T-junctions, Y-junctions and others for: 110 mm diameter	No	20		
53		for direction changes within the pipework including bends as well as other in line fittings including end caps: 110 mm diameter	No	20		
		<u>Install drain pipework from pumps to nearest drains</u>				
54		50 mm diameter uPVC pipe Installed from each sump to high level to connect into 110 at high level.	m	50		
55		50 mm diameter uPVC pipes Including unistrut system to support pipe in the vertical from the floor to the 110	m	50		
56		50 mm diameter uPVC pipes Including hangers, supports, connection, fittings and joints	No	40		
		<u>EXISTING EFFLUENT PLANTS</u>				
57		Investigation into effluent plant to ascertain what can be retained and reused in the rebuilt effluent plant.	Budgetry Allowance	1	11 340,00	
58		Refurbish Existing Effluent Plant	Budgetry Allowance	1	70 000,00	
		Carried Forward to Summary of Section No. 12				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : NEW WATER SYSTEMS</u>				
		<u>NEW WATER SYSTEMS</u>				
		<u>FIXTURE CONNECTIONS AND ASSOCIATED PIPEWORK</u>				
		<u>This includes all pipework including all associated fittings and connections, all installed inclusive of chasing, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>Costings for the following specific areas within the building are per fixture connection. Fixtures include toilets (1 connection), basins (2 connections), showers (2 connections), sinks (2 connections), and all other water connections to a fixture.</u>				
		<u>REFER TO J42000*6-GIB-WE-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Buildings to received drainage:</u>				
		<u>Warehouse</u>				
		<u>Chemical Store</u>				
		<u>Office</u>				
		<u>Lifting Shop</u>				
		<u>UNLESS OTHERWISE STATED, ALL PIPEWORK TO BE AS FOLLOWS:</u>				
		<u>WPIP/01</u>				
		<u>Fixture connection standard pipework sizes</u>				
		<u>Toilet connection: 150 mm diameter</u>				
		<u>Urinal connection: 150 mm diameter</u>				
		<u>Basin connections: 150 mm diameter</u>				
		<u>Sink connections: 200 mm diameter</u>				
		<u>Shower connection: 150 mm diameter</u>				
		<u>Angle Valve to be:</u>				
		<u>15mm ball type angle valve.</u>				
		<u>Toilet connection including :</u>				
1		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, angle type isolation valve at toilet, 200mm flexible hose form valve connected to the fixture connection point.	No	8		
		<u>Urinal connection including:</u>				
2		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, ball type isolation valve at urinal, all connected to the fixture connection point (flush valve or flushing system as per sanware schedule).	No	4		
3		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, angle type isolation valve at basin, 200mm flexible hose form valve connected to the fixture connection point.	No	28		
		<u>Basin connection including:</u>				
		<u>Sink connection including:</u>				
4		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, angle type isolation valve at sink, 200mm flexible hose form valve connected to the fixture connection point, installed:	No	20		
		<u>Shower connection Including:</u>				
5		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, ball type isolation valve, all connected to the fixture connection point (taps), installed:	No	8		
		<u>Other water connections:</u>				
6		Connection to water backbone in ceiling or service duct including fitting and isolation valve at branch, ball type isolation valve, all connected to the fixture connection point (taps), installed:	No	16		
		<u>WATER EQUIPMENT</u>				
		<u>This includes all equipment fully installed, including all associated fittings, connections, valves, protection, isolation all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000*6-GIB-WE-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
7		WST/01	No	2		
8		WST/02	No	1		
9		BS/01	No	1		
10		BS/02	No	1		
11		WT/01	No	8		
12		WT/02	No	8		
13		CP/01	No	2		
14		HP/01	No	1		
15		HP/02	No	1		
16		GEY/01	No	1		
17		GEY/02	No	1		
18		GEY/03	No			Rate only
19		GEY/04	No	4		
20		CS/01	No	2		
21		WLM/01	No	4		
22		WDU/01	No	2		
23		EW/01	No	2		
		WATER METERS				
		<u>This includes all equipment fully installed, including all associated fittings, connections, valves, protection, isolation all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000*6-GIB-WE-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Warehouse</u>				
		<u>Chemical Store</u>				
		<u>Office</u>				
		<u>Lifting Shop</u>				
		<u>BWM/01 Water Meters fully Installed, including connections and conversion pieces required to tie into pipework system</u>				
24		DN 100	No	1		
		<u>WM/XX Water Meters fully Installed, including connections and conversion pieces required to tie into pipework system</u>				
25		DN 50	No	5		
26		DN 32	No	2		
		PIPEWORK AND RETICULATION				
		<u>This includes all pipework for hot and cold potable water supply to all fixtures and fittings required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000*6-GIB-WE-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>All Hot water pipework will be WPIP/01</u>				
		<u>All cold water pipework less than 65Ø will be WPIP/01</u>				
		<u>All above ground main supply pipework 65Ø or greater will be WPIP/03</u>				
		<u>All below ground supply pipework will be as per civil engineers spec for below ground potable water pipework</u>				
		WPIP/03				
		<u>Installation of above ground potable water reticulation pipework, including hangers, jointing, support etc., as above.</u>				
27		DN 150	m	130		
28		DN 100	m	50		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
29		DN 80	m	10		
30		DN 65	m	10		
		<u>Installation of above ground potable water pipework fittings including bushes, bends, tees, junctions, unions, etc.</u>				
31		DN 150	No	25		
32		DN 100	No	25		
33		DN 80	No	5		
34		DN 65	No	5		
		<u>WPIP/01</u>				
		<u>Installation of above ground potable water reticulation pipework, including hangers, jointing, support etc., as above.</u>				
35		DN 50	m	50		
36		DN 40	m	50		
37		DN 32	m	60		
38		DN 25	m	140		
39		DN 20	m	160		
		<u>Installation of above ground potable water pipework fittings including bushes, bends, tees, junctions, unions, etc.</u>				
40		DN 50	No	50		
41		DN 40	No	25		
42		DN 32	No	30		
43		DN 25	No	210		
44		DN 20	No	240		
		<u>Installation of valves, control equipment, measuring equipment and visual indicators, including connections, adapters and fitting required to install the equipment. All valves to be DZR Brass</u>				
		<u>Wheel operated Gate Valves, including connections/conversion pieces to piping system</u>				
45		DN 150	No	6		
46		DN 100	No	2		
		<u>Lever operated Ball Valves, including connections/conversion pieces to piping system</u>				
47		DN 80	No	5		
48		DN 65	No	5		
49		DN 50	No	10		
50		DN 40	No	6		
51		DN 32	No	10		
52		DN 25	No	15		
53		DN 20	No	30		
		<u>Angle Valves, including connections/conversion pieces to piping system</u>				
54		DN 25	No			Rate only
55		DN 20	No	32		
56		DN 15	No	10		
		<u>Flexible Hoses</u>				
57		DN 20	No	28		
58		DN 15	No	10		
		<u>Pressure reducing valves, including connections/conversion pieces to piping system</u>				
59		DN 150	No	1		
60		DN 50	No	2		
61		DN 40	No			Rate only
		<u>Double check backflow prevention valves, including connections/conversion pieces to piping system</u>				
62		DN 50	No	2		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
63		DN 40	No			Rate only
64		DN 32	No			Rate only
65		DN 25	No			Rate only
		<u>Non return valves, including connections/conversion pieces to piping system</u>				
66		DN 50	No	4		
67		DN 40	No			Rate only
68		DN 32	No			Rate only
69		DN 25	No			Rate only
		<u>Strainer, including connections/conversion pieces to piping system</u>				
70		DN 50	No	4		
71		DN 40	No			Rate only
72		DN 32	No			Rate only
		<u>Flexible connectors, including connections/conversion pieces to piping system</u>				
73		DN 50	No	4		
74		DN 40	No			Rate only
75		DN 32	No			Rate only
		<u>Gauges, Sensors, etc. installed in pipework including fittings, conversion piece / connector required to install in the pipework system</u>				
76		Pressure and Temperature Relief Valve	No	3		
77		Pressure Gauge	No	4		
78		Temperature gauge	No	4		
79		Pressure sensor	No			Rate only
80		Temperature sensor	No			Rate only
		<u>Installation of below ground potable water reticulation to and from all fixtures and fittings, valve boxes, irrigation areas, taps etc. Including HDPE water pipework and smoothbore sleeve. This will include conversion piece. This will include sleeve to ensure the pipe can be replaced.</u>				
81		65 pipe / 160 sleeve	m	30		
82		50 pipe / 100 sleeve	m	30		
83		40 pipe / 100 sleeve	m			Rate only
84		32 pipe / 100 sleeve	m			Rate only
		<u>Installation of below ground potable water reticulation pipework fittings.</u>				
85		65	No	30		
86		50	No	30		
87		40	No			Rate only
88		32	No			Rate only
		<u>Installation of below ground water pipework valve box. Box to be plastic and is to be installed on a 100mm thick concrete base. Box to be minimum 400x400x400 deep and is to have a pedestrian class lid</u>				
		<u>Including isolation valve on the incoming line, isolation on both outgoing lines, full installed for</u>				
89		65 / 65 / 50	No			Rate only
90		50 / 50 / 20	No			Rate only
91		50 / 40 / 20	No			Rate only
92		32 / 20 / 20	No			Rate only
		<u>WINDOW TESTING FACILITY</u>				
		<u>Install water for all fixtures and fittings required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>WST/02</u>				
		<u>BS/02</u>				
93		WCP/01	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
94		Pipework and Nozzles	Item	1		
95		50Ø Water pipework installed from connection at lifting shop to washer including jacking the pipe below two sets of tracks. Pipe installed between 800 and 1000 deep.	m	100		
		Water Meter (Included above)				
		INSULATION				
		<u>REFER TO J42000*6-GIB-WE-BXX-SA-500 equipment schedule for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Insulation fully installed on all hot water pipework as well as cold water pipework running external to the building, including all bends, joints, T-junctions and related fittings</u>				
		<u>INS/01 installed 35mm thick with foil tape on.</u>				
96		DN 50	m	35		
97		DN 40	m	35		
98		DN 32	m	42		
		<u>INS/01 installed 25mm thick with foil tape on.</u>				
99		DN 25	m	98		
100		DN 20	m	112		
		<u>INS/01 installed 35mm thick with galvanised sheet protection on.</u>				
101		DN 50	m	15		
102		DN 40	m	15		
103		DN 32	m	18		
		<u>INS/01 installed 25mm thick with galvanised sheet protection on.</u>				
104		DN 25	m	42		
105		DN 20	m	48		
		<u>Insulation fully installed on all hot and cold water valves, and fittings installed in insulated pipework, connected and fully sealed to pipework insulation to ensure no thermal break exists</u>				
106		DN 50 fittings	No	82		
107		DN 40 fittings	No	31		
108		DN 32 fittings	No	40		
109		DN 25 fittings	No	235		
110		DN 20 fittings	No	270		
111		DN 15 fittings	No	100		
		EXISTING WATER SYSTEMS				
		INVESTIGATIONS AND RELOCATIONS				
		This includes for the investigation and detailed verification of the status and functionality of the current water systems installed on site.				
		Each pipe and connection will be checked for old and new leaks, connection stability and fastness as well as whether or not the pipework is of sufficient standard and functionality to last an addition 20 to 40 years				
		<u>Investigations to be priced for:</u>				
112		Warehouse	Item	1		
113		Chemical Store	Item	1		
114		Office	Item	1		
115		Lifting Shop	Item	1		
116		Test Pipes over existing water infrastructure to determine condition. Allow for pits to be up to 3m deep. To include for refilling and finishing off to existing surface finish	No	10		
117		Strip out of existing water infrastructure that will not be used (Provisional)	SUM	1		
118		Extend the existing water infrastructure from the existing back wall of the lifting shop to the new back wall of the lifting shop. Pipework accounted for in the pipework section above. Price here for propping up existing pipe to ensure the pipe stays live during the construction works. 25m of pipe will need to be supported. (Provisional)	SUM	1		
		Carried Forward to Summary of Section No. 12				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : BUILDERS WORK</u>				
		<u>BUILDERS WORK IN CONJUNCTION WITH MECHANICAL SERVICES</u>				
		<u>Over and above the trenching, laying and backfilling mentioned and required for the Mechanical Bill of Quantities, the contractor is to make allowance for the following as contingency.</u>				
		<u>Trenching</u>				
		<u>Trenching for pipework, including digging, laying and compaction of bedding, laying of pipe and backfilling the trench as well as making good of final surface to match existing.</u>				
		<u>Tarred Existing Surface</u>				
1		Up to 1m deep	m			Rate only
2		Between 1m and 2m deep	m			Rate only
3		Between 2m and 4m Deep	m			Rate only
		<u>Concrete Existing Surface</u>				
4		Up to 1m deep	m	50		
5		Between 1m and 2m deep	m	50		
6		Between 2m and 4m Deep	m			Rate only
		<u>Grassland Existing Surface</u>				
7		Up to 1m deep	m	250		
8		Between 1m and 2m deep	m	150		
9		Between 2m and 4m Deep	m	50		
		<u>Beneath in and around railway tracks</u>				
10		Up to 1m deep	m			Rate only
11		Between 1m and 2m deep	m	100		
12		Between 2m and 4m Deep	m	60		
		<u>Holes in concrete</u>				
		<u>Creating of penetration in horizontal and vertical concrete walls for pipework and ductwork and filling and making good of hole once services have been installed. All holes in concrete will be fire stopped.</u>				
		<u>Using rectangular void formers of depth between 300 and up to 400mm of size:</u>				
13		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No			Rate only
14		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No			Rate only
15		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
16		Width or height exceeding 1,35m and not exceeding 2,1m	No			Rate only
17		Width or height exceeding 2,1m	No	10		
		<u>Using Circular void formers of depth between 300 and up to 400mm of size:</u>				
18		250Ø mm diameter	No			Rate only
19		200Ø mm diameter	No			Rate only
20		110Ø mm diameter	No			Rate only
		<u>By means of coring between 300 and up to 400mm depth and size:</u>				
21		250Ø mm diameter	No	10		
22		200Ø mm diameter	No	10		
23		160Ø mm diameter	No	20		
24		110Ø mm diameter	No	20		
		<u>Holes in Brickwork</u>				
		<u>Creating of penetration in brick or blockwork walls for pipework and ductwork and filling and making good of hole once services have been installed.</u>				
		<u>Where making good does not include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
25		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	10		
26		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No	5		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
27		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
28		Width or height exceeding 1,35m and not exceeding 2,1m	No			Rate only
29		Width or height exceeding 2,1m	No			Rate only
		<u>Where making good does include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
30		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	5		
31		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No	3		
32		Width or height exceeding 750mm and not exceeding 1,35m	No			Rate only
33		Width or height exceeding 2,1m	No			Rate only
		<u>Installation of brick pit for grease traps, sand traps and oil separators.</u>				
		<u>All pits will be installed including, trenching, installation of pipework and connections through wall to units, 230mm double brick walls, 150mm thick smooth cast concrete base.</u>				
		<u>Pit will be accessed using steel/GRP foot rings installed in wall with a 500x500 clear space around stairs to stand in pit, with a minimum 400 clear space down one wall for easy access to trap/separator. Pit will have a:</u>				
		<u>Contractor designed steel hinged lid that can be locked closed (at a rate of 1 lid per 300mm of length of pit), for pits</u>				
34		Less than 0.8m wide and up to 1.5m deep	m			Rate only
		<u>Contractor designed combination of lifetable precast concrete covers (at a rate of 1 lid per 300mm of length of pit) and a manhole cover to access the pit, for pits:</u>				
35		Between 0.8m and 1.5m wide and up to 1.5m deep	m			Rate only
		<u>For pits deeper than 1.5m, 330mm walls to be used and walls to be shored up either internal across the pit or externally into the surrounding ground to ensure walls cannot collapse.</u>				
36		Less than 0.8m wide and up to 3m deep	m			Rate only
37		Between 0.8m and 1.5m wide and up to 3m deep	m			Rate only
Carried Forward to Summary of Section No. 12						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5 : ELECTRICAL WORKS</u>				
		<u>ELECTRICAL WORK IN CONJUNCTION WITH MECHANICAL SERVICES</u>				
		<u>ELECTRICAL CABLING, GLANDING, ETC.</u>				
		<u>Over and above the cabling requirements mentioned previously and in the ZI-1500 Equipment Specification documents, the Contractor is to allow for the following electrical requirements associated with the Mechanical Equipment</u>				
		<u>This includes supply, delivery and installation of all cables and containment, fully installed, including associated fittings, connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>Cabling from Mechanical Equipment to the Local Isolator provided by the electrical contractor</u>				
		<u>Supply and fixing on surface, cable tray, trunking or false ceiling of 600/1000Volt grade PVC/SWA/PVC copper cored cables (unless otherwise specified)</u>				
		<u>4C SWA PVC cables</u>				
1		4mm2	m	20		
2		6mm2	m	20		
3		10mm2	m			Rate only
		<u>Termination of Cables</u>				
		<u>Cable terminations to include for the supply and fitting of the cable gland, making off of the cable to the glandplate, switchgear or appliance</u>				
4		4c x 4mm2	No	10		
5		4c x 6mm2	No	10		
6		4c x 10mm2	No			Rate only
		<u>Trunking</u>				
7		P8100 Galvanised steel trunking installed, surface fixed to wall, unistrut, roof structure or any exposed surface suitable to fix trunking including galvanised biscuit tin lid.	m	150		
8		90 degree mitre bend for trunking	No	20		
9		90 degree radius bend for trunking	No	20		
10		Tee junction for trunking	No	20		
		<u>Cable Basket, Welded Wire Mesh</u>				
		<u>Galvanised welded wire mesh Medium duty cable basket supported from roof trusses and/or fixed to walls complete with hangers, splices, joiners, fixing etc.</u>				
11		100mm wide tray	m	100		
12		100mm wide 90° bend	No	20		
13		100mm tray tee junction units	No	20		
		<u>S.A.B.S. approved PVC conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>				
14		25 mm	m	100		
15		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits chased, (making good to be allowed for elsewhere)</u>				
16		25 mm	m	20		
17		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits fittings, including connection to conduit length and ancillaries required for fixing</u>				
18		25 mm	No	50		
19		32 mm	No			Rate only
		<u>S.A.B.S. approved PVC conduits boxes, with lid installed, including connections to conduit</u>				
		<u>Circular boxes with 2 connections</u>				
21		25 mm	No	20		
22		32 mm	No			Rate only
		<u>Circular boxes with 3 connections</u>				
23		25 mm	No	20		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
24		32 mm <u>Circular boxes with 4 connections</u>	No			Rate only
25		25 mm	No	20		
26		32 mm <u>S.A.B.S. approved galvanised steel conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>	No			Rate only
27		25 mm	m	20		
28		32 mm <u>S.A.B.S. approved galvanised steel conduits chased, (making good to be allowed for elsewhere)</u>	m			Rate only
29		25 mm	m	20		
30		32 mm <u>S.A.B.S. approved galvanised steel conduits fittings, including connection to conduit length and ancillaries required for fixing</u>	m			Rate only
31		25 mm	No	20		
32		32 mm <u>S.A.B.S. approved galvanised steel conduits boxes, with lid installed, including connections to conduit</u>	No			Rate only
		<u>Circular boxes with 2 connections</u>				
33		25 mm	No	20		
34		32 mm <u>Circular boxes with 3 connections</u>	No			Rate only
35		25 mm	No	20		
36		32 mm <u>Circular boxes with 4 connections</u>	No			Rate only
37		25 mm	No	20		
38		32 mm	No			Rate only
Carried Forward to Summary of Section No. 12						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - WET SERVICES		Page No		
1		PRELIMINARIES AND GENERALS	Page	155		
2		DRAINAGE	Page	159		
3		WATER	Page	164		
4		BUILDERS WORK	Page	166		
5		ELECTRICAL	Page	168		
Carried to Final Summary						

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THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : NEW FIRE PROTECTION</u>				
		<u>NEW FIRE PROTECTION AND SUPPRESSION</u>				
		<u>FIRE WATER RETICULATION</u>				
		<u>This includes all pipework, all fixtures and fittings required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000-B-06-05-FIR-SCH-0001-01 equipment schedule and fire and sprinkler specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Fire Sprinkler system Pipework</u>				
		<u>Installation of above ground fire sprinkler water reticulation pipework, painted signal red.</u>				
		<u>Fire fighting pipework will be as per the specification for internal and external pipework. 50Ø pipework and below will be screwed and pipework larger than 50Ø will be grooved/shoulder pipe with compliant jointing couplings and fittings or welded in order to ensure the pressure requirements are met.</u>				
		<u>If pipework is galvanised and welded, the welded area and surrounding are must then be re-treated to ensure high corrosion resistance then primed and painted.</u>				
		<u>ALL GROOVED PIPE COUPLERS MUST BE INCLUDED IN THE PRICING OF THE FITTINGS</u>				
2		DN 300	m	1		
3		DN 250	m	35		
4		DN 200	m	22		
5		DN 150	m	12		
6		DN 100	m	521		
7		DN 80	m	61		
8		DN 50	m	1 894		
9		DN 32	m	24		
10		DN 25	m	54		
11		DN 20	m	71		
		<u>Installation of above ground fire sprinkler water reticulation pipework fittings, including bends (90 / 45), reducers and other inline fittings, painted signal red.</u>				
12		DN 300	No	1		
13		DN 250	No	15		
14		DN 200	No	16		
15		DN 150	No	15		
16		DN 100	No	65		
17		DN 80	No	20		
18		DN 50	No	561		
19		DN 32	No	32		
20		DN 25	No	5		
21		DN 20	No	25		
		<u>Installation of above ground fire sprinkler water reticulation pipework fittings, including Ts, sockets and other diversion or conversion fittings, etc painted signal red.</u>				
22		DN 300	m	1		
23		DN 250	m	10		
24		DN 200	No	6		
25		DN 150	No	7		
26		DN 100	No	181		
27		DN 80	No	20		
28		DN 50	No	1 007		
29		DN 32	No	20		
30		DN 25	No	18		
31		DN 20	No	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Fire Protection system Pipework</u>				
		<u>Fire Fighting Reticulation for standard fire protection systems</u>				
		<u>Installation of above ground galvanised steel fire fighting water reticulation pipework, painted red and installed up to 1m below the building roof structure</u>				
32		DN 150	m	92		
33		DN 100	m	7		
34		DN 80	m	22		
35		DN 50	m	219		
36		DN 32	m	17		
37		DN 25	m	102		
		<u>Installation of above ground fire sprinkler water reticulation pipework fittings, including bends (90 / 45), reducers and other inline fittings, painted signal red.</u>				
38		DN 150	No	13		
39		DN 100	No	26		
40		DN 80	No	18		
41		DN 50	No	53		
42		DN 32	No	1		
43		DN 25	No	132		
		<u>Installation of above ground fire sprinkler water reticulation pipework fittings, including Ts, sockets and other diversion or conversion fittings, etc painted signal red.</u>				
44		DN 150	No	100		
45		DN 100	No	5		
46		DN 80	No	5		
47		DN 50	No	10		
48		DN 32	No	1		
49		DN 25	No	24		
		<u>Installation of below ground uPVC presusre pipe insatilled 900 below gorund from pump room to Building 1 and building 5</u>				
50		DN 160	m	207		
		DN160 Fittings	no.	14		
		<u>Installation of below ground uPVC presusre pipe insatilled 900 below gorund from main water point to tank room</u>				
51		DN 110	m	196		
		DN110 Fittings	no.	35		
		<u>FIRE EQUIPMENT</u>				
		<u>Fire Sprinkler</u>				
		<u>This includes supply, delivery and a complete installation of all equipment including all associated fittings and connections, connectors, valves and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, ASIB compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000-B-06-05-FIR-SCH-0001-01 equipment schedule and fire and sprinkler specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
		<u>Sprinkler Heads</u>				
		<u>ASIB Compliant and fully installed and connected to pipework</u>				
52		SPR/01	No	1 055		
53		SPR/02	No	70		
		<u>ICV/01 - Lifting Shop</u>				
		<u>fully installed and ASIB compliant including all the equipment, valves, bypass, drains, etc to provide a complete valve set for the warehouse:</u>				
54		Alarm Check Valve and Trim Set including alarm valve and drain set and all associated pipework as well as gong	No	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
55		Pressure gauges including fittings and pipe connections as required	No	2		
56		Monitored Downstream and upstream valves	No	4		
57		Check Valve	No	1		
58		Flow sensor	No	1		
59		Flow proving arrangement including pipework, connections, valve, arrangement and pipework to drain	Item	1		
60		Pipework, connections, ancillaries and all requirements for a complete installation	Item	1		
		ICV/02 - Warehouse				
		<u>fully installed and ASIB compliant including all the equipment, valves, bypass, drains, etc to provide a complete valve set for the warehouse:</u>				
61		Alarm Check Valve and Trim Set including alarm valve and drain set and all associated pipework as well as gong	No	1		
62		Pressure gauges including fittings and pipe connections as required	m	2		
63		Monitored Downstream and upstream valves	No	4		
64		Check Valve	No	1		
65		Flow sensor	No	1		
		Flow proving arrangement including pipework, connections, valve, arrangement and pipework to drain	Item	1		
		Pipework, connections, ancillaries and all requirements for a complete installation	Item	1		
		<u>Air release valves, fully installed including pipe socket/fitting</u>				
68		200Ø mm diameter Air release valves	No	2		
69		150Ø mm diameter Air release valves	No	3		
70		100Ø mm diameter Air release valves	No	9		
		<u>150Ø mm diameter flanged isolation valve and 150Ø mm diameter flanged pipe connection piece for spare connections to ICV Main header in chamber</u>				
71		Pipework and flanges	No	4		
74		25Ø mm diameter Drain Pipework remote test valve	No	20		
75		50Ø mm diameter Flushing Valve	No	2		
76		Signage for Sprinkler ICV chamber	Item	1		
77		Signage for external booster and suction hydrant	Item	1		
		PLAN				
78		Installed as scheduled	Item	2		
		CABINET				
79		Installed as scheduled complete with the required number of spare heads as required by ASIB	Item	2		
		Fire Fighting				
		<u>This includes supply, delivery and a complete installation of all equipment including all associated fittings and connections, connectors, valves and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
66		Twin booster connector, back flow preventer, pressure gauge and conns to mains with trenching thrust block and backfilling connected to 250 below ground pipe from ICV	Item	1		
67		100Ø mm diameter Storz connector and connection to mains with trenching thrust block and backfilling connected to 250 below ground pipe from ICV	Item	1		
80		HR/01	No	28		
81		HY/01	No	8		
82		HY/02	No	8		
83		FE/01	No	55		
84		FE/02	No	6		
85		FE/03	No	10		
86		FBC/01	No	1		
87		STC/01	No	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
88		30m Flat Fire Hose installed adjacent to Hydrants with 65Ø mm diameter hydrant connector	No	24		
89		Hose reel cabinet fully installed to encapsulate the hose reel and provide weather protection.	No	6		
90		Hose reel and Hydrant cabinet Full installed	No	2		
91		Hose cupboard for flat hoses adjacent to hydrants, including unstrut stand embedded in concrete below ground onto which to mount the cupboard.	No	10		
92		Hose cupboard for flat hoses adjacent to hydrants, mounted to wall	No	10		
<u>FIRE BOOSTING AND PUMPS</u>						
<u>This includes a complete installation of all equipment including all associated fittings and connections, connectors, valves and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>						
<u>REFER TO J42000*6-GIB-FE-BXX-SA-500 equipment specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>						
93		Tank FST/01	No	1		
94		Structural Platform for Tank FST/01	No	1		
95		Electric Fire Pump - FBS/01	No	1		
96		Diesel Fire Pump - FBS/02	No	1		
97		Auto start arrangement	Item	1		
98		Control Panel and controls including links back to fire panel	No	1		
99		Control and monitoring system for sprinklers	No	1		
100		Fire Tank and Booster for fire protection systems (Provisional)	SUM	1		
<u>NON LIQUID FIRE SUPPRESSION</u>						
<u>This includes a complete installation of all equipment including all associated fittings and connections, connectors, valves and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>						
<u>Novec 1230 Fire suppression system for server room in:</u>						
101		20m2 server room	Item	1		
<u>SMOKE CONTROL SYSTEMS</u>						
<u>This includes supply, delivery and a complete installation of all equipment including all associated fittings and connections, connectors, valves and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>						
<u>Smoke Control Louvres, installed in the roof system, fixed to steel roof trusses, including flashing and waterproofing systems to ensure rain ingress is prevented. System to have fusible link to release the smoke vent in a smoke situation.</u>						
102		SMK/01	No			Rate only
103		SMK/02	No			Rate only
<u>FIRE SIGNAGE</u>						
<u>This includes a complete installation of all signs including all associated fittings and connections, connectors and ancillaries all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>						
<u>White background and red sign - wall or ceiling mounted photo luminescent fire equipment sign mounted in an aluminium surround and either screwed or bolted comprising either: Arrow, Fire extinguisher, Hose Reel, Hydrant</u>						
104		190x190 mm	No	15		
105		290x290 mm	No	98		
106		440x440 mm	No	68		
<u>Green background and white sign - wall or ceiling mounted photo luminescent fire equipment sign mounted in an aluminium surround and either screwed or bolted comprising either: Arrow, Running person, Wheelchair person, stairs, phone.</u>						
107		190x190 mm	No	61		
108		290x290 mm	No	95		
109		440x440 mm	No	22		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
110		Assembly point signs	No	3		
		Exit sign	No	14		
		Sign - Other signage	No	22		
		EXISTING FIRE PROTECTION AND SUPPRESSION				
		INVESTIGATIONS				
		<u>This includes for the investigation and detailed verification of the status and functionality of the current water systems installed on site.</u>				
		<u>Investigations to be priced for:</u>				
111		Warehouse	Item	1		
112		Chemical Store	Item	1		
113		Office	Item	1		
114		Lifting Shop	Item	1		
		REPAIR AND REPLACE				
		<u>This includes all pipework, all fixtures and fittings required for a complete installation, all fully installed, including all associated fittings and connections, all installed inclusive of jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation.</u>				
		<u>REFER TO J42000*6-GIB-FE-BXX-SA-500 equipment specification for details of equipment referred to below. ALL EQUIPMENT, SPECIFICATION, MATERIAL, CONTROLS, NOTES AND ADDITIONAL INFORMATION WILL BE INCLUDED FOR IN THE PRICING</u>				
115		Allow for the cost for the replacement and repair of the existing system. (Provisional)	SUM	1		
		Carried Forward to Summary of Section No. 13				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : BUILDERS WORK</u>				
		<u>BUILDERS WORK IN CONJUNCTION WITH FIRE SYSTEMS</u>				
		<u>BUILDERS WORK</u>				
		<u>Over and above the trenching, laying and backfilling mentioned and required for the Mechanical Bill of Quantities, the contractor is to make allowance for the following as contingency.</u>				
		<u>Trenching</u>				
		<u>Trenching for pipework, including digging, laying and compaction of bedding, laying of pipe and backfilling the trench as well as making good of final surface to match existing.</u>				
		<u>Tarred Existing Surface</u>				
1		Up to 1m deep	m			Rate only
2		Between 1m and 2m deep	m			Rate only
3		Between 2m and 4m Deep	m			Rate only
		<u>Concrete Existing Surface</u>				
4		Up to 1m deep	m	50		
5		Between 1m and 2m deep	m	50		
6		Between 2m and 4m Deep	m			Rate only
		<u>Grassland Existing Surface</u>				
7		Up to 1m deep	m	250		
8		Between 1m and 2m deep	m	150		
9		Between 2m and 4m Deep	m	50		
		<u>Beneath in and around railway tracks</u>				
10		Up to 1m deep	m			Rate only
11		Between 1m and 2m deep	m	100		
12		Between 2m and 4m Deep	m	60		
		<u>Holes in concrete</u>				
		<u>Creating of penetration in horizontal and vertical concrete walls for pipework and ductwork and filling and making good of hole once services have been installed. All holes in concrete will be fire stopped.</u>				
		<u>Using Circular void formers of depth <= 300mm of size:</u>				
13		2500 mm diameter	No			Rate only
14		2000 mm diameter	No			Rate only
15		1600 mm diameter	No			Rate only
16		1100 mm diameter	No			Rate only
		<u>By means of coring <=300mm depth and size:</u>				
17		2500 mm diameter	No	10		
18		2000 mm diameter	No	10		
19		1600 mm diameter	No	20		
20		1100 mm diameter	No	20		
		<u>Holes in Brickwork</u>				
		<u>Creating of penetration in brick or block work walls for pipework and ductwork and filling and making good of hole once services have been installed.</u>				
		<u>Where making good does not include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
21		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	10		
22		Width or height not exceeding 750mm and sum of two adjacent sides exceeding 1,15m	No	5		
		<u>Where making good does include fire stopping</u>				
		<u>Creating of penetration in wall up to 300mm thick with</u>				
23		Width or height not exceeding 750mm and sum of two adjacent sides not exceeding 1,15m	No	5		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>Powder coating</u>				
		<u>All fire related containment including conduit, cable tray, cable basket and all other containment systems to be galvanised and powder coated orange - including relevant bushes, lock nuts, couplings, galvanized saddles, etc.</u>				
24		Powder coating of any and all fire related containment systems described in this BOQ or the relevant schedules	Item	1		
		Carried Forward to Summary of Section No. 13				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : ELECTRICAL WORKS</u>				
		<u>ELECTRICAL WORK IN CONJUNCTION WITH FIRE SERVICES</u>				
		<u>ELECTRICAL CABLING, GLANDING, ETC.</u>				
		<u>Over and above the cabling requirements mentioned previously and in the ZI-1500 Equipment Specification documents, the Contractor is to allow for the following electrical requirements associated with the Mechanical Equipment</u>				
		<u>This includes supply, delivery and installation of all cables and containment, fully installed, including associated fittings, connections, jointing, hangers, supports, scaffolding, labour and all other cost and equipment to provide a complete, SANS compliant and Health and safety compliant installation</u>				
		<u>Cabling from Mechanical Equipment to the Local Isolator provided by the electrical contractor</u>				
		<u>Supply and fixing on surface, cable tray, trunking or false ceiling of 600/1000Volt grade PVC/SWA/PVC copper cored cables (unless otherwise specified)</u>				
		<u>4C SWA PVC cables</u>				
1		4mm2	m	20		
2		6mm2	m	20		
3		10mm2	m			Rate only
		<u>Termination of Cables</u>				
		<u>Cable terminations to include for the supply and fitting of the cable gland, making off of the cable to the glandplate, switchgear or appliance</u>				
4		4c x 4mm2	No	10		
5		4c x 6mm2	No	10		
6		4c x 10mm2	No			Rate only
		<u>Trunking</u>				
7		P8100 Galvanised steel trunking installed, surface fixed to wall, unistrut, roof structure or any exposed surface suitable to fix trunking including galvanised biscuit tin lid.	m	150		
8		90 degree mitre bend for trunking	No	20		
9		90 degree radius bend for trunking	No	20		
10		Tee junction for trunking	No	20		
		<u>Cable Basket, Welded Wire Mesh</u>				
		<u>Galvanised welded wire mesh Medium duty cable basket supported from roof trusses and/or fixed to walls complete with hangers, splices, joiners, fixing etc.</u>				
11		100mm wide tray	m	100		
12		100mm wide 90° bend	No	20		
13		100mm tray tee junction units	No	20		
		<u>S.A.B.S. approved PVC conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>				
14		25 mm	m	10		
15		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits chased, (making good to be allowed for elsewhere)</u>				
16		25 mm	m	20		
17		32 mm	m			Rate only
		<u>S.A.B.S. approved PVC conduits fittings, including connection to conduit length and ancillaries required for fixing</u>				
18		25 mm	No	50		
19		32 mm	No			Rate only
		<u>S.A.B.S. approved PVC conduits boxes, with lid installed, including connections to conduit</u>				
		<u>Circular boxes with 2 connections</u>				
20		25 mm	No	20		
21		32 mm	No			Rate only
		<u>Circular boxes with 3 connections</u>				
22		25 mm	No	20		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
23		32 mm	No			Rate only
		<u>Circular boxes with 4 connections</u>				
24		25 mm	No	20		
25		32 mm	No			Rate only
		<u>S.A.B.S. approved galvanised steel conduits surface fixed, including ancillaries, brackets, supports and other requirements</u>				
26		25 mm	m	50		
27		32 mm	m			Rate only
		<u>S.A.B.S. approved galvanised steel conduits chased, (making good to be allowed for elsewhere)</u>				
28		25 mm	m	20		
29		32 mm	m			Rate only
		<u>S.A.B.S. approved galvanised steel conduits fittings, including connection to conduit length and ancillaries required for fixing</u>				
30		25 mm	No	20		
31		32 mm	No			Rate only
		<u>S.A.B.S. approved galvanised steel conduits boxes, with lid installed, including connections to conduit</u>				
		<u>Circular boxes with 2 connections</u>				
32		25 mm	No	20		
33		32 mm	No			Rate only
		<u>Circular boxes with 3 connections</u>				
34		25 mm	No	20		
35		32 mm	No			Rate only
		<u>Circular boxes with 4 connections</u>				
36		25 mm	No	20		
37		32 mm	No			Rate only
Carried Forward to Summary of Section No. 13						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - FIRE SERVICES		Page No		
1		PRELIMINARIES AND GENERAL	Page	170		
2		FIRE	Page	175		
3		BUILDERS WORK	Page	177		
4		ELECTRICAL	Page	179		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
SECTION FOURTEEN : NEW RAILS						
BILL NO. 1 : SUPPLY OF MATERIALS						
1		R350LHT 48kg/m Rails: 66 x 18m (EN13674-1: Specification for new Railway Rails)	m	600		
2		Gantrail Bolted Fixing 4120/15/40 with pad for fixing of rails to inspection pits in lift shop (2 x 180m tracks)	No	2 880		
3		Gantrail Bolted Fixing 4120/15/40 with pad for fixing of rails to track slab in lift shop (1 x 180m track)	No	1 440		
4		Gantrail Bolted Fixing 4120/15/40 with pad for fixing of rails to track slab on bogie line (1 x 60m)	No	480		
5		R350LHT 48kg/m Rails: 12 x 6m for cross tracks at Lines 1 and 2 (EN13674-1: Specification for new Railway Rails)	m	36		
6		Gantrail Bolted Fixing 4120/15/40 with pad for fixing of rails to track slab on cross tracks (1 x 36m)	No	100		
7		Material for 1 x Cross Track (Line 1 and 2) : 32 x 3 hole fish plates, 48 x M20 200mm bolts and washer, 16 x 65mm width x 5mm depth x 700mm length angle iron	No	2		
8		Ballast: S406 (1998): Transnet specification for supply of ballast stone for 40m track reinstatement (Line 4)	m3	60		
Carried Forward to Summary of Section No. 14						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>SECTION FOURTEEN - NEW RAILS</u>						
<u>BILL NO. 2 : LAYING OF RAILS</u>						
<u>Offload and distribute rails</u>						
1		(a) 48 Kg/m new rails to place of installation	m	1 272		
2		Lay rails in new track (48kg/m) (metre track)	No	636		
3		Install junction rails or closures (48kg/m x 6m length)	No	8		
4		Build and lay cross track on Lines 1 and 2	No	2		
5		Build stop block and install on bogie line	m	1		
<u>Existing rails from Line 1, 2 and Bogie line</u>						
6		(a) Cut rails in 6m lengths, load released rails	m	920		
7		(b) Transport released and surplus rails to Springfield Perway Depot	m	150 000		
8		(c) Offload and stack rails at Springfield Perway Depot	m	920		
<u>Line 4 (Dismantle and rebuild 40m track to enable construction of foundations)</u>						
9		(a) Cut rails and pull-up rails	m	80		
10		(b) Replace cut rails in existing track (48kg/m) (metre track)	m	80		
Carried Forward to Summary of Section No. 14						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>SECTION FOURTEEN - NEW RAILS</u>						
<u>BILL NO. 3 : LAYING OF SLEEPERS</u>						
<u>Line 4 (Dismantle and rebuild 40m track to enable construction of foundations)</u>						
1		(a) Remove sleepers for construction of foundations	No	60		
2		(b) Lay sleepers in track @ 700mm spacing and fasten sleepers to rails	No	60		
Carried Forward to Summary of Section No. 14						

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Carried Forward to Summary of Section No. 14

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - NEW RAILS		Page No		
1		SUPPLY OF MATERIALS	Page	181		
2		LAYING OF RAILS	Page	182		
3		LAYING OF SLEEPERS	Page	183		
4		BALLASTING AND TAMPING	Page	184		
5		FIELD WELDING OF RAIL JOINTS	Page	185		
Carried to Final Summary						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>SECTION FIFTEEN : ELECTRICAL WORKS</u>						
<u>BILL NO. 1 : PRELIMINARY AND GENERAL</u>						
1		COMPLIANCE WITH CONTRACT Allow for costs directly associated with expenses to comply with the Conditions of Contract and the Main Contract Preliminaries. Fixed cost component	Item	1		
2		Component variable with time for completion (monthly)	Item	9		
3		SITE ESTABLISHMENT component Fixed cost	Item	1		
4		Component variable with time for completion (monthly)	Item	9		
5		CONTRACT ADMINISTRATION component Fixed cost	Item	1		
6		Component variable with time for completion (monthly)	Item	9		
7		PROVISION OF 10% PERFORMANCE GUARANTEE component Fixed cost	Item	1		
8		Component variable with time for completion (monthly)	Item	9		
9		INSURANCE component Fixed cost	Item	1		
10		Component variable with time for completion (monthly)	Item	9		
11		COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT (1993) AND THE CONSTRUCTION REGULATIONS (2014) Fixed cost component	Item	1		
12		Component variable with time for completion (monthly)	Item	9		
13		COMPLIANCE WITH THE ENVIRONMENTAL MANAGEMENT PLAN Fixed cost component	Item	1		
14		Component variable with time for completion (monthly)	Item	9		
15		PROVISION OF DEFECTS LIABILITY GUARANTEE TO THE VALUE OF 5% OF THE CONTRACT VALUE Fixed cost component	Item	1		
16		Component variable with time for completion (monthly)	Item	9		
17		SECURITY TO SITE FOR THE DURATION OF THE PROJECT Fixed cost component	Item	1		
18		Component variable with time for completion (monthly)	Item	9		
<u>DETAILS OF ANY OTHER ITEMS THE CONTRACTOR MAY WISH TO ADD:</u>						
19		General Items Allow for an infrared (IR) photographic scanning of the LV main board and all the distribution boards including submission of a complete report to the electrical engineer by an independent specialist	Item	1		
20		Training of the client representative at practical completion	Item	1		
21		Testing and commissioning of the electrical installation.	Item	1		
22		Issue certificates of compliance for the completion of the electrical installation.	Item	1		
23		Inspection and handing over	Item	1		
24		Mark up As Built drawings and submit them to the engineer for As Built purposes	Item	1		
25		Provision of Operating and Maintenance manuals to the engineer	Item	1		
26		Provide for a master installation electrician for overseeing the electrical installation within the hazardous locations (Chemical Store)	Item	1		
27		Earthing and bonding complete electrical installation as required by SANS 10142-1 as amended, including other metal installations or steel structures.	Item	1		
Carried Forward to Summary of Section No. 15						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2 : MAINS SUPPLY</u>				
		<u>CABLES Supply, deliver and install the specified Low Voltage Cable as per LV feeds required from the substation to the LV Main Board in the Lifting Shop:</u>				
		Main Supply: From the substation to the LV Main Board 2 in the New Lifting Shop Extension:				
1		500mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath, 2 cores in parallel per phase. Supply	m	920		
2		Install	m	920		
3		630mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. Supply	m	60		
4		Install	m	60		
		Essential: From the standby generator to the LV Main Board 2 in the New Lifting Shop Extension:				
5		500mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. Supply	m	560		
6		Install	m	560		
		<u>Cable Terminations and Joints Termination of 600/1000V PVC grade copper cable connection to MCCB with crimped lug.</u>				
7		500mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. Supply	No	24		
8		Install	No	24		
9		630mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. Supply	No	8		
10		Install	No	8		
11		Main Earth Conductors Supply, deliver and install all stranded earth copper conductors (both bare and PVC insulated) and lugs and the installation thereof, together with cables on trays, against structures, in sleeves and in wiring channels, including for the fixing and connecting thereof 95mm ² bare copper. Supply	m	505		
12		Install	m	505		
13		70mm ² bare copper Supply	m	50		
14		Install	m	50		
15		50mm ² bare copper Supply	m	30		
16		Install	m	30		
17		35mm ² bare copper Supply	m	30		
18		Install	m	30		
19		Main Earth Conductors Terminations 95mm ² bare copper Supply	No	14		
20		Install	No	14		
21		70mm ² bare copper Supply	No	4		
22		Install	No	4		
23		35mm ² bare copper Supply	No	2		
24		Install	No	2		
25		Trenching Excavation 1000mm deep and 800mm wide trench including backfilling and compacting In earth	m3	65		
26		Soft rock extra over earth	m3	25		
27		Hard rock	m3	20		
28		Imported soft sand bedding of 150mm under the cable and above cable (when required by coil conditions) Supply	m3	43		
29		Install	m3	43		
30		LV cable marker tape laid in an open trench 150mm above the cable along the length of the cable Supply	m	440		
31		Install	m	440		
32		5mm nylon drawn cable drawn into spare sleeves Supply	No	440		
33		Install	No	440		
34		Double skin brick manhole, 1000mm x 1000mm x 1000mm deep minimum inside dimensions with heavy duty cover or lid. Supply	m	5		
35		Install	m	5		
36		Sleeves Kabelflex, High density polyethylene (HDPE) with corrugated double wall construction cable sleeves laid in open trenches, ducts, cast into slabs etc. including all couplings, joints, bends and other accessories. NOTE: Spare sleeves for future use to be sealed at both ends 160mm diameter Supply	m	440		
37		Install	m	440		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
38		110mm diameter Supply	m	50		
39		Install	m	50		
40		50mm diameter Supply	m	50		
41		Install	m	50		
42		90 degrees slow bend for 160mm dia. Sleeve Supply	No	40		
43		Install	No	40		
44		90 degrees slow bends for 110mm dia. sleeve Supply	No	8		
45		Install	No	8		
46		1.6mm galvanised draw wire drawn into conduit or sleeve. Supply	m	440		
47		Install	m	440		
48		Label cables on both ends with numbering beads or non-corroding straps to indicate their connection points. Supply	Item	1		
49		Install	Item	1		
50		Earthing Provision for earthing as per regulations of all mains supply installation and/ or equipment as required. Standby generator earthing included. Provisional sum to carry out the above work	Item	1		
51		Profit and attendance on item 50	%IT			
		Carried Forward to Summary of Section No. 15				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 3 : LV DISTRIBUTION</u>						
<u>CABLES Supply, deliver and install the specified Low Voltage Cable as per LV feeds required from the LV Main Board and DB's:</u>						
1		From LV Main Board 2 to DB-GND (Offices): 185mm ² x 4-core ECC PVC SWA PVC (Non-Essential) Supply	m	120		
2		Install	m	120		
3		From DB-GO1 to DB-GO2 Floor: 35mm ² x 4-core ECC PVC SWA PVC (Non-Essential) Supply	m	55		
4		Install	m	55		
5		From DB-GO1 to DB-CS: 25mm ² x 4-core ECC PVC SWA PVC (Non-Essential) Supply	m	200		
6		Install	m	200		
7		From DB-GO1 to DB-WH: 70mm ² x 4-core ECC PVC SWA PVC (Non-Essential) Supply	m	220		
8		Install	m	220		
9		From DB-CS to DB-WW: 16mm ² x 4-core ECC PVC SWA PVC (Non-Essential) Supply	m	140		
10		Install	m	140		
11		25mm ² x 4-core ECC PVC SWA PVC Supply	m	40		
12		Install	m	40		
13		10mm ² x 4-core ECC PVC SWA PVC Supply	m	110		
14		Install	m	110		
15		16mm ² x 3-core PVC SWA PVC Supply	m	15		
16		Install	m	15		
17		10mm ² x 3-core PVC SWA PVC Supply	m	90		
18		Install	m	90		
19		From LV Main Board 2 to Existing LV Main Board: 500mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. (Non-Essential) Supply	m	160		
20		Install	m	160		
21		From LV Main Board 2 to Existing LV Main Board: 500mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. (Essential) Supply	m	240		
22		Install	m	240		
23		From LV Main Board 2 to DB-GND (Offices): 35mm ² x 4-core ECC PVC SWA PVC (Essential) Supply	m	120		
24		Install	m	120		
25		From DB-GO1 to DB-GO2 Floor: 10mm ² x 4-core ECC PVC SWA PVC (Essential) Supply	m	55		
26		Install	m	55		
27		From DB-GO1 to DB-CS: 10mm ² x 3-core ECC PVC SWA PVC (Essential) Supply	m	200		
28		Install	m	200		
29		From DB-GO1 to DB-WH: 16mm ² x 4-core ECC PVC SWA PVC (Essential) Supply	m	220		
30		Install	m	220		
<u>Termination of 600/1000V PVC grade copper cable connection MCCB's with crimped lugs</u>						
31		150mm ² x 4-core ECC PVC SWA PVC Supply	No	4		
32		Install	No	4		
33		120mm ² x 4-core ECC PVC SWA PVC Supply	No	4		
34		Install	No	4		
35		70mm ² x 4-core ECC PVC SWA PVC Supply	No	2		
36		Install	No	2		
37		35mm ² x 4-core ECC PVC SWA PVC Supply	No	6		
38		Install	No	6		
39		16mm ² x 4-core ECC PVC SWA PVC Supply	No	4		
40		Install	No	4		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
41		10mm ² x 4-core ECC PVC SWA PVC Supply	No	4		
42		Install	No	4		
43		16mm ² x 3-core PVC SWA PVC Supply	No	2		
44		Install	No	2		
45		10mm ² x 3-core PVC SWA PVC Supply	No	4		
46		Install	No	4		
47		630mm ² single core XLPE insulated cable with stranded copper conductor, unarmoured, with PVC sheath. Supply	No	8		
48		Install	No	8		
<u>MAIN EARTH CONDUCTORS Supply, deliver and install all stranded earth copper conductors (both bare and PVC insulated) and lugs and the installation thereof, together with cables on trays, against structures, in sleeves and in wiring channels, including for the fixing and connecting thereof</u>						
49		95mm ² bare copper Supply	m	150		
50		Install	m	150		
51		70mm ² bare copper Supply	m	150		
52		Install	m	150		
53		25mm ² bare copper Supply	m	50		
54		Install	m	50		
<u>MAIN EARTH CONDUCTORS TERMINATIONS</u>						
55		95mm ² bare copper Supply	No	8		
56		Install	No	8		
57		70mm ² bare copper Supply	No	6		
58		Install	No	6		
59		25mm ² bare copper Supply	No	4		
60		Install	No	4		
SLEEVES, CABLE BASKETS AND DUCTING The supply and installation of all cable trays installed in ceiling voids complete with support structure, bends, joints, reducing sections, cross pieces, angle pieces and expanding joints, threaded rod braces, channels and straps and accessories sleeves for future use to be sealed at both ends 110mm sleeve Supply						
61			m	250		
62		Install	m	250		
63		50mm sleeve Supply	m	120		
64		Install	m	120		
65		90 degrees slow bend for 110mm dia. Sleeve Supply	No	20		
66		Install	No	20		
67		90 degrees slow bends for 50mm dia. sleeve Supply	No	16		
68		Install	No	16		
69		1.6mm galvanised draw wire drawn into conduit or sleeveSupply	m	400		
70		Install	m	400		
Supply and install in ceiling space and on surface galvanised trunking, making allowance for support, bends and all ancillary material required for a complete installation. Galvanised covers to be included in the rate. NB: The trunking and cover shall be galvanised and powder coated orange. P9000 trunking Supply						
71			m	320		
72		Install	m	320		
73		P9000 end caps Supply	No	22		
74		Install	No	22		
75		P8000 trunking Supply	m	100		
76		Install	m	100		
77		P8000 end caps Supply	No	10		
78		Install	No	10		
79		P2000 trunking Supply	m	260		
80		Install	m	260		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
81		P2000 end caps Supply	No	16		
82		Install	No	16		
		<u>The Supply and installation of all heavy duty cable trays installed in ceiling voids complete with support structure, bends, joints, reducing sections, cross pieces, angle pieces and expanding joints, threaded rod braces, channels and straps and accessories. Cable ladder to be galvanised and powder coated orange.</u>				
83		Heavy duty 1000mm wide cable tray Supply	m	90		
84		Install	m	90		
85		Heavy duty 600mm wide cable tray Supply	m	180		
86		Install	m	180		
87		Heavy duty 400mm wide cable tray Supply	m	50		
88		Install	m	50		
89		Heavy duty 300mm wide cable tray Supply	m	180		
90		Install	m	180		
		LV MAIN BOARD, MAIN DISTRIBUTION BOARDS AND DISTRIBUTION BOARDS. Supply and install distribution boards as specified and drawn on schematic diagrams and in positions as indicated on relevant drawingsLow Voltage Main Board 2 (LVMB 2) in Lifting Shop Extension: Floor standingSupply				
91			No	1		
92		Install	No	1		
93		DB-GO1: Wall mounted, Recessed Supply	No	1		
94		Install	No	1		
95		DB-GO2: Wall mounted, Recessed Supply	No	1		
96		Install	No	1		
97		DB-WH: Wall mounted, Recessed Supply	No	1		
98		Install	No	1		
99		DB-CS: Wall mounted, Surface - IP65 rated Supply	No	1		
100		Install	No	1		
101		DB-CS: Wall mounted, Surface - IP65 rated Supply	No	1		
102		Install	No	1		
		Supply and install the following switchgear on distribution boards as and when required. Switchgear shall match the existing switchgear in order to maintain the same switchgear make in all DB's. 10A, 240V, 6kA circuit breakerSupply				
103			No	6		
104		Install	No	6		
105		20A, 240V, 6kA circuit breaker Supply	No	2		
106		Install	No	2		
107		20A, 420V, 6kA circuit breaker Supply	No	2		
108		Install	No	2		
109		50A, 420V, 6kA circuit breaker Supply	No	2		
110		Install	No	2		
111		70A, 420V, 6kA circuit breaker Supply	No	2		
112		Install	No	2		
113		LV Trenching Excavation 600mm deep and 400mm wide trench including backfilling and compacting In earth	m3	40		
114		Soft rock extra over earth	m3	13		
115		Hard rock	m3	8		
116		Imported soft sand bedding of 150mm under the cable and above cable (when required by coil conditions) Supply	m3	22		
117		Install	m3	22		
118		LV cable marker tape laid in an open trench 150mm above the cable along the length of the cable Supply	m	150		
119		Install	m	150		
120		250mm High truncated pyramid cable route marker with stainless steel insert engraved with the cable details eg, "LV 16mm²X4C CABLE", installed to protrude 150mm above ground and every 35m along and at the cable route direction change. Supply	No	7		
121		Install	No	7		
		Carried Forward to Summary of Section No. 15				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4 : LIGHTING AND POWER</u>				
1		CONDUITS PVC CONDUIT supplied and installed, including couplings, cutting, bending, fixing etc. as per specification in concrete, brickwork and on surface in voids. 20mm diameter conduit Supply	m	100		
2		Install	m	100		
3		GALVANISED STEEL CONDUIT supplied and installed, including outlet Box, cover plate, couplings, cutting, bending, fixing etc. as per specification in concrete (floor slab), brickwork and on surface in voids. Conduit to be galvanised and powder coated orange. 20mm diameter conduit Supply	m	2 300		
4		Install	m	2 300		
		<u>CONDUIT OUTLET BOXES</u>				
5		Galvanised 100 x 100x 50mm conduit outlet box and cover plate to suit any number, size or type of entries, fixed in roofs or in and including recess in brickwork or cast in concrete Supply	No	300		
6		Install	No	300		
7		Galvanised 100 x 50x 50mm conduit outlet box and cover plate to suit any number, size or type of entries, fixed in roofs or in and including recess in brickwork or cast in concrete Supply	No	55		
8		Install	No	55		
9		Round galvanised conduit box (60 - 65mm) diameter Supply	No	340		
10		Install	No	340		
		<u>CONDUCTORS</u>				
11		PVC insulated 600/1000 V stranded copper conductors, drawn into conduit, wire ways and/or sleeves : 4 mm² conductor Supply	m	1 500		
12		Install	m	1 500		
13		2.5 mm² Supply	m	4 800		
14		Install	m	4 800		
15		Bare stranded copper earth conductors, drawn into conduit, 2.5 mm² Supply	m	3 000		
16		Install	m	3 000		
17		SWITCHES, SOCKET OUTLETS AND ACCESSORIES, ETC. Switched socket outlet complete with cover plate fixed in flush box or flush in lid of power skirting or in box on wall. 16A 3-pin normal single flush mounted switched socket outlet with 2-pin outlet Supply	No	15		
18		Install	No	15		
19		16A 3-pin normal double flush mounted switched socket outlet Supply	No	40		
20		Install	No	40		
21		16A 3-pin normal single switched socket outlet installed in power skirting. Supply	No	58		
22		Install	No	58		
23		16A 3-pin normal double surface mounted switched. Supply	No	12		
24		Install	No	12		
25		16A 3-pin dedicated single switched socket outlet installed in power skirting. Supply	No	58		
26		Install	No	58		
27		100x100x50mm Cover plates where necessary Supply	No	45		
28		Install	No	45		
29		100x50x50mm Cover plates where necessary Supply	No	35		
30		Install	No	35		
31		20A double pole surface mounted isolator Supply	No	35		
32		Install	No	35		
33		20A Weatherproof double pole surface mounted isolator Supply	No	25		
34		Install	No	25		
35		20A triple pole surface mounted isolator Supply	No	15		
36		Install	No	15		
37		30A triple pole surface mounted isolator Supply	No	13		
38		Install	No	13		
39		60A triple pole surface mounted isolator Supply	No	10		
40		Install	No	10		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
41		3 Compartment PVC power skirting complete with cutouts, covers, elbows, tees, etc Supply	m	230		
42		Install	m	230		
43		Outdoor 100A triple pole surface mounted isolator Supply	No	5		
44		Install	No	5		
45		Labelling of all power points, socket outlets with circuit numbers, number of socket outlet in the circuit and DB supplying that circuit. Supply	Item	1		
46		Install	Item	1		
ACCESS FLOOR BOXES AND UTILITY POLES						
47		Supply and install 300 x 300 x 65mm access floor box suitable to accommodate 9 off modular outlets supplied complete with 5 off power point outlets and 4 off data point outlets. Supply	No	8		
48		Install	No	8		
49		4500mm tall utility pole or power pole complete with fixing bracket and accessories suitable to accommodate 4 off power point outlets, 4 off data point outlets and 4 off telephone point outlets. Supply	No	1		
50		Install	No	1		
51		CONDUITS Galvanised conduit supplied and installed, including couplings, cutting, bending, fixing etc. as per specification in concrete, brickwork and on surface in voids. 20 mm Supply	m	1 800		
52		Install	m	1 800		
53		25 mm Supply	m	50		
54		Install	m	50		
55		CONDUIT OUTLET BOXES Galvanised 100 x 50 x 50mm conduit outlet box and cover plate to suit any number, size or type of entries, fixed in roofs or in and including recess in brickwork or cast in concrete Supply	No	72		
56		Install	No	72		
57		Galvanised (60-65)mm diameter shallow type conduit outlet box and cover plate to suit any number, size or type of entries, fixed in roofs or in and including recess in brickwork or cast in concrete Supply	No	505		
58		Install	No	505		
CONDUCTORS						
59		PVC insulated 600/1000 V stranded copper conductors, drawn into conduit, wire ways and/or sleeves : 1.5 mm ² Conductor Supply	m	2 400		
60		Install	m	2 400		
61		2.5 mm ² Conductor Supply	m	3 500		
62		Install	m	3 500		
63		Bare stranded copper earth conductors, drawn into conduit, 1.5 mm ² BCEW Supply	m	1 700		
64		Install	m	1 700		
65		2.5 mm ² BCEW Supply	m	2 100		
66		Install	m	2 100		
67		SURFIX CABLE (BLACK) Supply and Install 2.5mm ² X 4-core + earth wire Supply	m	400		
68		Install	m	400		
69		SWITCHES AND ACCESSORIES, ETC. 16A One lever one way flush mounted light switch Supply	No	55		
70		Install	No	55		
71		16A Two lever one way flush mounted light switch Supply	No	18		
72		Install	No	18		
73		16A One lever one way surface mounted light switch Supply	No	6		
74		Install	No	6		
75		16A One lever two way flush mounted light switch Supply	No	20		
76		Install	No	20		
77		16A One lever one way surface mounted light switch Supply	No	6		
78		Install	No	6		
79		16A Two lever one way surface mounted light switch Supply	No	8		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
80		Install	No	8		
81		20A Photo-electric daylight sensitive switch Supply	No	8		
82		Install	No	8		
83		16A one lever watertight light switch Supply	No	3		
84		Install	No	3		
85		SOCKET OUTLET FOR LIGHT FITTINGS FITTINGS 5A unswitched socket outlet to accept 5A plug top connected by a 3m cabyre to light fitting in ceiling void or where necessary Supply	No	340		
86		Install	No	340		
		LIGHT FITTINGS SUPPLY & INSTALL	H3	0		
87		Type J: 32W 600X600 LED Panel light fitting as specified. Light fitting shall be dimmable and have a light sensing system for efficient use of energy. Supply	No	58		
88		Install	No	58		
89		Type JE: 32W 600X600 LED Panel light fitting complete with emergency battery pack as specified. Light fitting shall be dimmable and have a light sensing system for efficient use of energy. Supply	No	21		
90		Install	No	21		
91		Type D1: 20W LED downlight light fitting as specified. Supply	No	57		
92		Install	No	57		
93		Type D: 10W LED downlight light fitting as specified. Supply	No	22		
94		Install	No	22		
95		Type K: 36W linear LED light fitting as specified Supply	No	18		
96		Install	No	18		
97		Type KE: 36W linear LED light fitting with battery backup pack as specified Supply	No	8		
98		Install	No	8		
99		Type L: 36W vapourproof LED linear light fitting as specified. Supply	No	25		
100		Install	No	25		
101		Type LE: 36W vapourproof LED linear light fitting with battery backup pack as specifiedSupply	No	18		
102		Install	No	18		
103		Type B: 16W bulkhead LED light fitting as specified Supply	No	28		
104		Install	No	28		
105		Type BE: 16W bulkhead light fitting with battery backup pack as specified Supply	No	17		
106		Install	No	17		
107		Type R: 65W linear LED light fitting as specified Supply	No	35		
108		Install	No	35		
109		Type RE: 65W linear LED light fitting with emergency battery backup pack. Supply	No	16		
110		Install	No	16		
111		Type W: 100W highbay LED light fitting as specified. Supply	No	22		
112		Install	No	22		
113		Type S: 36W linear LED light fitting with battery backup pack as specified Supply	No	27		
114		Install	No	27		
115		Type X: 100W Beka floodlight LED light fitting as specified. Supply	No	10		
116		Install	No	10		
117		Type H: 47W Zone 2 application LED light fitting as specified. Light fitting to be explosion-proof. Supply	No	12		
118		Install	No	12		
119		Type HE: 47W Zone 2 application LED light fitting with battery backup pack as specified. Light fitting to be explosion-proof. Supply	No	7		
120		Install	No	7		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
121		Type D: Surface mounted single sided exit signage with 'Running Man' pictogram as specified Supply	No	30		
122		Install	No	30		
123		Type D: Surface mounted single sided exit signage with 'Exit' sign as specified Supply	No	30		
124		Install	No	30		
125		Supply and install the required elements as specified below to accommodate Data and Telephone support infrastructure of conduit, outlet boxes and blank cover plates. Flush mounted telephone DB with dimensions of 450 x 300 x 250mm deep with door fitted with door latch. Supply	No	3		
126		Install	No	3		
127		Galvanised conduit in ceiling voids, in wall chases and on surface: 25mm Conduit: Supply	m	1 000		
128		Install	m	1 000		
129		Galvanised flush mounted draw boxes with white enamel finished cover plates fitted with chromium plated screws.	H3	0		
130		100 x 100x 50 mm draw boxes Supply	No	110		
131		Install	No	110		
132		100 x 100x 50 mm cover plates Supply	No	80		
133		Install	No	80		
134		(60-65)mm diameter round draw box: Supply	No	620		
135		Install	No	620		
136		(60-65)mm diameter round cover plate to fit round draw box Supply	No	620		
137		Install	No	620		
138		TELEPHONE AND DATA INSTALLATION Telephone and data outlet for surface mounting with 100 x 50 x 50mm coverplate Supply	No	15		
139		Install	No	15		
140		Telephone and data outlet cradles for mounting in powerskirting. Supply	No	130		
141		Install	No	130		
142		MEDIUM DUTY WELDED MESH CABLE TRAY The supply and installation of welded mesh cable trays installed in ceiling voids complete with support structure, bends, joints, reducing sections, cross pieces, angle pieces and expanding joints, threaded rod braces, channels and straps and accessories 300mm Wide welded mesh cable tray Supply	m	280		
143		Install	m	280		
144		300mm Wide welded mesh cable tray: Bends Supply	No	30		
145		Install	No	30		
146		300mm Wide welded mesh cable tray: Tee's Supply	No	18		
147		Install	No	18		
148		PVC COMPACT MINI TRUNKING Supply and install PVC compact mini trunking complete with lid and all its standard accessories as may be required when installing it 40mm x 16mm, YT3 mini trunking Supply	m	50		
149		Install	m	50		
150		25mm x 16mm, YT2 mini trunking Supply	m	30		
151		Install	m	30		
152		EARTHING 300mm L x 200mm W x 3mm H earth bar with 8mm bolts and nuts for 16mm2 insulated copper conductor from the server room to the substation earth. Supply	No	1		
153		Install	No	1		
154		TELECOMMUNICATIONS MANHOLES Double skin brick manhole, 800mm x 800mm x 800mm deep minimum inside dimensions with heavy duty cover or lid. Supply	No	10		
155		Install	No	10		
		<u>FIRE ALARM SYSTEM WIREWAYS, CCTV, ACCESS CONTROL, AND PUBLIC ADDRESS SYSTEM. Galvanised conduit in ceiling voids, in wall chases and on surface:</u>				
156		25mm Conduit: Supply	m	3 000		
		Carried Forward				

Carried Forward to Summary of Section No. 15

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 5 : PROVISIONAL SUMS</u>						
1		Allowance to provide electrical power to mechanical plants and various plant or equipment installed as part of this project: i) HVAC ii) Mobile wheel lathe iii) Lifting jacks iv) 10 Ton crane v) Shore supply complete with cabling and socket outlets	Item	1	395 000,00	
2		Allow for profit on above	%IT			
3		Provision for a 600 litres bundwall with a drainage valve.	Item	1	85 000,00	
4		Allow for profit on above	%IT			
5		Test existing cables for possible reuse.	Item	1	55 000,00	
6		Allow for profit on above	%IT			
7		Provisional sum for pit lighting.	Item	1	85 000,00	
8		Allow for profit on above	%IT			
9		Relocation of existing DBs mounted on the wall that is to be removed. Include for cables and wireways that may need to be bought and installed.	Item	1	85 000,00	
10		Allow for profit on above	%IT			
11		Provisional sum for refurbishment of the existing electrical installation in the Lifting Shop and address non-compliant installations that may exist.	Item	1	115 000,00	
12		Allow for profit on above	%IT			
13		Lightning Protection SystemDesign, supply and install lightning protection system (LPS) as described in the specification. The design, supply and installation of the LPS shall be done by the LPS specialist. LPS design and installation shall comply with applicable standards as amended. The price to include for earth resistivity testing. Provisional sum to carry out the work above	Item	1	450 000,00	
14		Profit and attendance on item 13	%IT			
Carried Forward to Summary of Section No. 15						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - ELECTRICAL WORKS		Page No		
1		PRELIMINARY AND GENERAL	Page	187		
2		MAINS SUPPLY	Page	189		
3		LV DISTRIBUTION	Page	192		
4		LIGHTING & POWER	Page	197		
5		PROVISIONAL SUMS	Page	198		
Carried to Final Summary						

Carried Forward to Summary of Section No. 16

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
BILL NO. 2 : GENERAL COMPLIANCE						
<u>Contract Name: Durban Lifting Shop Extension Schedule: 2 General Compliance</u>						
1		Integration (Supply, Install, Commission and Test Complete) Supply and Install complete to the PRASA/Metrorail latest ISMS Specification. All proposed equipment shall be approved by PRASA to ensure integration. Office Applications	SUM			Included
2		WAN/MAN Integration	SUM			Included
3		LAN integration	SUM			Included
4		Radio Integration	SUM			Included
5		OFC Integration	SUM			Included
6		CCTV Integration	SUM			Included
7		Public Address	SUM			Included
8		Fire Detection Integration	SUM			Included
9		Access Control Integration	SUM			Included
10		Intrusion Detection Integration	SUM			Included
11		Applications (Supply, Install and Debugged Complete)	H3			Included
12		Software and Licence Microsoft Office 2020	No			Included
13		Network Management System	No			Included
14		Security Management System	No			Included
15		All requirements for the Physical (DATA) Security as per specifications	SUM			Included
16		Connect and intergrate to existing Babylon XMP Building Management System (BMS) as Specified complete	SUM			Included
17		General Requirements for CCTV, Access Control, Public Address, Intercom, Voice and Data Network, Intruder Alarm and Fire Detection Configuration	SUM			Included
18		Babylon XMP (BMS) integration	SUM			Included
19		Testing and Commissioning	SUM			Rate only
20		Comply to Integration of the Network Requirements for: Network Architecture	SUM			Rate only
21		Network Topology	SUM			Rate only
22		Modular Network Design	SUM			Rate only
23		Core Layers	SUM			Rate only
24		Distribution Layers	SUM			Rate only
25		Access Layer	SUM			Rate only
26		Wired and Wireless Network	SUM			Rate only
27		Wide Area and Metropolitan Area Network (WAN/MAN)	SUM			Rate only
28		Local Area Network (LAN)	SUM			Rate only
29		Wireless LAN	SUM			Rate only
30		Cabling Standards and Specifications	SUM			Rate only
31		Optic Fibre Cables	SUM			Rate only
32		Servers	SUM			Rate only
33		Terminals for Rack Installation	SUM			Rate only
34		Server Room	SUM			Rate only
Carried Forward to Summary of Section No. 16						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3 : ICT AND ELECTRONICS</u>				
		<u>Contract Name: Durban Lifting Shop Extension Schedule: 3 Integrated Telecommunication and Systems</u>				
		<u>Durban Lifting Shed Integrated Telecommunication and Systems</u>				
		Electronic Pipe and Chamber NetworkProvide 110mm diameter Kabelflex sleeves installed at 1m below NGL. Rate shall include trenching, installation, filling of trench, covering, compacting in layers of 350mm, reinstatement of the surface, shoring and pumping of water as required.110mm Ø duct Materials R Labour	m	670		
1		R				
2		Trench in Soft Soil Materials R Labour R	m	670		
3		Trench in Concrete covered areas Materials R Labour R	m	0		
4		Trench Bedding & Padding Materials R Labour R	m	670		
5		Trench CompactionMaterials R Labour R	m	670		
6		Provide electronic manholes with tamper proof lid, cable organisers and blanked off poke outs to detail drawing.800mm x 800mm x 800m deep Materials R Labour	Item	10		
7		CCTV - InfrastructureSupply and Install complete to the PRASA Specification Document_V5 ISMS Requirements-11May 2016, PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification, Annexure 10 - Depot_Modernisation_ICT_Requirements_and_Standards_v1.3, Annexure 13_PRASA Public Address System Specifications, Annexure 14_PRASA CCTV System, Annexure 16_EBabylon_system_V1.2 Framework, NGS- 2014-11-07. All proposed equipment shall be perused and approved by PRASA for integration purposes.PRASA Type 4 - IP PTZ CameraSupply and install PoE IP based cameras complete with brackets, lockable protective enclosures, network switch, sfp, drop fibre, fibre organising cassette, splicing, electrical supply, cabling and configure complete.PTZ Camera with Infra RED Illumination and analytics Materials R Labour	Item	19		
8		Pole/wall mounted Bracket Materials R Labour	Item	19		
9		1GB Single PoE Injector Port 60W Materials R Labour	Item	19		
10		Base Junction Box for PTZ Cameras Materials R Labour	Item	19		
11		<u>PRASA Type 2 - IP IR Bullet Camera 4K: Static Bullet Camera: (mounted on cable tray or trunking complete)</u>				
12		Outdoor Camera with Infra red Illumination Materials R Labour	Item	77		
13		Bi-directional Audio Materials R Labour	Item	77		
14		1GB Single PoE Injector Port 60 Materials R Labour	Item	77		
15		Base Junction Box fixed to cable tray or trunking Materials R Labour	Item	77		
16		<u>PRASA Type 1 - IP Vandal Resistant Mini Dome 4K Outdoor Varifocal Dome Camera (mounted on 5m MH galvanised steel pole complete with foundation to PRASA Specifications)</u>				
17		Outdoor Camera with Infra red IlluminationMaterials R Labour	Item	2		
18		Bi-directional Audio Materials R Labour	Item	2		
19		Base Junction Box fixed to steel pole, mounted to wall Materials R Labour	Item	2		
20		Galvanised steel poleSurface mount hot dipped galvanised steel mast complete with foundation, bolt cage, top and bottom inspection chamber with lids.Supply and Install 150mmx150mm with 2.5mm wall thickness square tubing hot dipped galvanised pole complete with base.5m Mounting Height Materials R Labour	Item	2		
21		Mast and Foundation Design for 5m Mounting height Materials R Labour	SUM	1		
22		Supply and install 5m MH foundation complete with Bolt Group and Nuts Materials R Labour	Item	2		
23		Equipment Kiosk - Weather Proof Provide a lockable pole mounted equipment kiosk complete with 220V single phase Isolator, 15m 3-core 6mm² PVC/SWA/PVC, terminated and connected to electrical supply, 16A Single Switched socket outlet, fibre cassette with sleeves. Supply and Install Kiosk complete	Item	2		
24		Media Converter, 100Mbps/1Gbps Multirate Support, 1SFP Port + 4RJ-45 Copper Port, with POE+ (30W IEEE 802.3at)	Item	2		
		SFP-6 Single mode, 1000FX Materials R Labour	Item	2		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
25		60W 48V DC Switchmode Power Supply R Labour R	Materials Item	2		
26		1m RJ45 - RJ45 fly lead R Labour R	Materials Item	2		
27		Indoor Varifocal Dome Supply and install PoE IP based cameras complete with brackets, lockable protective enclosures, network switch, sfp, drop fibre, fibre organising cassette, splicing, electrical supply, cabling and configure complete. Mounted in ceiling tile/surface complete with conduit from nearest electronic service tray to PRASA Specifications3MP 4-Way Multi Sensor Indoor Dome Camera, IR with 3-9mm R Labour R	Materials Item	2		
28		Bi-directional Audio R Labour R	Materials Item	2		
29		Base Junction Box for Surface mounted Dome Camera R Labour R	Materials Item	2		
30		PRASA Type 5 -IP IR Bullet Camera 2MP Mounted in ceiling tile/surface complete with conduit from nearest electronic service tray to PRASA Specifications Materials R Labour R	Item	11		
31		Bi-directional Audio R Labour R	Materials Item	11		
32		Base Junction Box for Surface mounted Bullet Camera R Labour R	Materials Item	11		
<u>Optic Fibre (Supply, Install, Commission and Test Complete) Supply and Install 48-core Single Mode OFC 9/125um 10GB/s at 10000m, OD = 6mm with Kevlar Yarn installed into:</u>						
33		Secured to poles R Labour R	Materials m	10		
34		Open cable trays in open Shed roofs R Labour R	Materials m	340		
35		Open cable trays in open ceiling void R Labour R	Materials m	100		
36		Terminate 48-Core OFC cable aboveTerminations for cable - float (complete with end connectors, Slicing kit, Fibre tray/Organiser, Test) and patch 2 cores:Splice of Cable above: Materials R Labour R	SUM	1		
37		Fibre Splicing Kits R Labour R	Materials SUM	1		
38		Optic Fibre (Supply, Install, Commission and Test Complete) Pole Supply and Install 12-core Single Mode OFC 9/125um 10GB/s at 10000m, OD = 6mm with Kevlar Yarn installed into:Open cable trays in open Shed roofs R Labour R	Materials R Labour m			Rate only
39		Open cable trays in open ceiling void R Labour R	Materials m			Rate only
40		Terminate 12-Core OFC cable aboveTerminations for cable - float (complete with end connectors, Slicing kit, Fibre tray/Organiser, Test) and patch 2 cores:Splice of Cable above: Materials R Labour R	Item			Rate only
41		Fibre Splicing Kits R Labour R	Materials Item			Rate only
42		Central Control Room Equipment (Server Room)Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for CCTV OperatorsRaised floors with 600mm x 600mm universal super conductive tiles complete with support frame. Materials R Labour R	Materials R Labour m2	5		
43		Link configuration to JOC (PRASA central control room) Materials R Labour R	SUM	1		
44		UPS 10KVA Materials R Labour R	Item	1		
45		JOC Control Room EquipmentComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for CCTV OperatorsOperator Station - PC Materials R Labour R	Materials R Labour Item	1		
46		Operator Station - Monitor Materials R Labour R	Item	2		
47		Video Wall - PC R Labour R	Materials Item	1		
48		Video Wall - Panel - 65" R Labour R	Materials Item	1		
49		UPS 10KVA R Labour R	Materials Item	1		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		<u>CCTV Network Infrastructure Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification Supply and Install:</u>				
50		Network Switch - 24 Port100/1000Base-Fx SFP, 4 Port 10/100/1000Base -Tx or 100/1000Fx SFP Combo with 20 Gbps of throughput complete to PRASA Specification Materials R Labour R	Item			Rate only
52		Network Switch- 24 Port10/100/1000Base-Tx PoE, 2 SFP Gig Combo port, 24 IEEE 802.3af/at device powered, Cisco FlexStack stacking module with 20 Gbps of throughput complete to the PRASA Specification Materials R Labour R	Item	6		
53		Network Switch- 8 Port10/100Tx With IEEE 802.3at PoE+, 2 Port 10/100/100/Tx or 1000Fx SFP Combo, Commercial Grade with PSU and rack bracket Materials R Labour R	Item	1		
54		NVR Recording 2x 16 GB RDIMM, 2x 120GB Solid State, 4x 300GB 15K RPM, 6x8TB 7.2K RPM, Hot-plug HD, Raid Controller, Windows server 2012, 3Yr Pro Support to PRASA Specification Materials R Labour R	SUM	1		
55		43U Floor Standing Equipment Rack complete with Power Ducks, Removable Panels Trays and Cooling Fans Materials R Labour R	SUM			Rate only
56		NVR Monitor, Keyboard and Mouse for Rack Materials R Labour R	SUM	1		
57		SFP Single Mode 1000FX, 1310NM, 2 Fibre, LC Materials R Labour R	Item	7		
58		9U Wall Mounted Equipment Rack complete with Power Ducks, Removable Panels Trays and Cooling Fans Materials R Labour R	Item	3		
59		Configure CCTV network Materials R Labour R	SUM	1		
60		Test and Commissioning CCTV equipment Materials R Labour R	SUM	1		
61		Fibre Patch CordsSupply and Install LC to LC Duplex Patch Cord as required: 1m Materials R Labour R	SUM	210		
62		3m Materials R Labour R	SUM	78		
63		Network cablesMylar external CAT 5e cables Materials R Labour R	m	960		
64		Termination with RJ45 Connector and Test Materials R Labour R	Item	50		
65		CAT 6 cables Materials R Labour R	m	1 440		
66		Termination with RJ45 Connector and Test Materials R Labour R	Item	47		
67		Software Licensing Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for CCTV, Software, Headend, Storage Management, Configuration, Analytics, Expansion, Alarms, Mapping, Reception: Heading 6.1.6 on page 9 to Reception page 42All CCTV licensing requirements Materials R Labour R	SUM	1		
68		Facial Recognition Analytics installed on camera Materials R Labour R	Item	97		
69		Licence Plate Recognition Software Materials R Labour R	SUM	0		
70		Trip wire Analytics installed on camera Materials R Labour R	Item	97		
71		Trip Wire Software Materials R Labour R	SUM	1		
72		3 Years software support Materials R Labour R	SUM	1		
73		Sundries Materials R Labour R	SUM	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
		Access Control Door Equipment Supply and Install complete to the PRASA Specification Document_V5 ISMS Requirements-11May 2016. All proposed equipment shall be approved by PRASA.Equipment shall comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Access Control, Software, Headend, Storage Management, Configuration, Expansion, Alarms: Items 333, 334, 335, 336 on page 43 to page 44All units to include mounting brackets, power supplies mounded in wall mount enclosures , electrical wires, screen wire, earthing, wiring, LAN cables to switches, terminations, connectors, software, adequate protection IP66 and UV for both cables and external units. Multi-criteria Door Controller with power supply, with battery back-up housed in metal enclosure installed in ceiling void:Supply and Install Complete:Controller for 2 readers				
74		Materials R Labour R	Item	1		
		Controller for 4 readers				
75		Materials R Labour R	Item	2		
		Additional Battery (All readers, and releases to be mounted over backbox at 1200mm AFFL)				
76		Materials R Labour R	Item	3		
		Palm Readers - Wall mount indoor				
77		Materials R Labour R	Item	1		
		Palm Readers - Wall mount external with rain shield				
78		Materials R Labour R	Item	6		
		Biometric Palm Reader				
79		Materials R Labour R	Item	7		
		Idemia / Sagem / Ideco / Morphowave Compact MDPI / Morpho Access Wave reader Compact version with Mifare/Desfire/Prox/iClass ReaderBabylon RIM Module for above Wiegand Interface				
80		Idemia Morpho Wave Reader (subject to site survey)No Touch Door Release	Item	7		
		Materials R Labour R				
		Green Break Glass Door Release	Materials			
81		 R Labour R	Item	7		
		557kg Magnetic Door Monitor with Bracket	Materials			
82		 R Labour R	Item	6		
		Magnetic Roller Door Contacts	Materials			
83		 R Labour R	Item	1		
		Keyswitch override installed in wall/door frame				
84		Materials R Labour R	Item	7		
		CablesSupply, install and test completeCAT 5e/6 cable from controllers				
85		Materials R Labour R	m	200		
		Termination for cable above	Materials			
86		 R Labour R	Item	6		
		Mylar cable for Bio/Palm Readers	Materials			
87		 R Labour R	m	250		
		Termination for cable above				
88		Materials R Labour R	Item	14		
		6-core cabling for Door Devices				
89		Materials R Labour R	m	250		
		Termination of cable above				
90		Materials R Labour R	Item	14		
		Central Control Room (IT SERVER) EquipmentComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for OperatorsSupply and install:Operator Station - PC - item 358				
91		Materials R Labour R	Item	1		
		Operator Station - Monitor -	Materials			
92		 R Labour R	Item	1		
		Enrolment Reader				
93		Materials R Labour R	Item	1		
		Biometric Enrolment ReaderMaterials R Labour R	Item	1		
		Digital I/O module				
95		Materials R Labour R	Item	3		
		Card Printer, Software, Camera and Software				
96		Materials R Labour R	SUM	1		
		Cards	Materials			
97		 R Labour R	Item			Rate only
		Access Control Server Supply and Install the Access Control Server complete with monitor, mouse and keyboard -	Materials			
98		 R Labour R	Item	1		
		Supply and Install network switch: 8 Port PoE Switch				
99		Materials R Labour R	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
100		Supply and Install 9U Freestanding Equipment Rack complete with Power Ducks, Removable Panels Trays and Cooling Fans Materials R	Item	1		
101		Configure Access Control R Labour R	SUM	1		
102		Test and Commissioning equipment Materials R Labour R	SUM	1		
103		Network cables 1m CAT 6 Fly Leads Materials R Labour R	SUM	10		
104		2m CAT 6 Fly Leads Materials R Labour R	SUM	8		
105		Fibre Fly Leads Supply and Install Single Mode Fibre LC-LC Duplex Patch Cords or as required: 1m Materials R Labour R	SUM	20		
106		3m Materials R Labour R	SUM	16		
107		Software Licensing Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for CCTV, Software, Headend, Storage Management, Configuration, Analytics, Expansion, Alarms, Mapping, Reception: Access Control Software - Materials R Labour R	SUM	1		
108		All software and licensing requirements Materials R Labour R	SUM	1		
109		3 Years software support Materials R Labour R	SUM	1		
110		Intercom Supply and Install complete to the PRASA Specification Document_V5 ISMS Requirements-11May 2016 IP based Intercom system - with server/pc card/software. Complete with equipment panel, injector port, media converter, and 60W switchmode power supply per location. Materials R Labour R	Item	3		
111		Personnel Signing on off System Allow for 6 x 32" touch screen monitors with signing in and out software installed in train drivers office complete with 900mm freestanding stand and power supply Materials R Labour R	SUM	1		
112		Software Licensing (Intercom and Personnel Signing on off) Comply with PRASA Project Specifications. Requirements for Intercom systems All licensing requirements. Materials R Labour R	SUM	1		
113		3 Years software support Materials R Labour R	SUM	1		
		Data and Voice Network				
114		Supply and Install Optic Fibre (Supply, Install, Commission and Test Complete) Supply and Install 48-core Single Mode OFC 9/125um 10GB/s at 10000m, HDD (Heavy Duty Duct Cable) installed into: In cable sleeves Materials R Labour R	m	100		
115		Cable Joint for OFC cable Provide a cable joint enclosure, with fibre organiser, splice and testing complete Supply and Install Materials R Labour R	Item			Rate only
116		Terminate 24-Core OFC HDD cable above Terminations for cable - float (complete with end connectors, Slicing kit, Fibre tray/Organiser, Test) and patch 48 core Single mode : Materials R Labour R	Item	6		
117		Network, Distribution and Access Layer Supply and Install complete to the PRASA Specification Document_V5 ISMS Requirements-11May 2016. All proposed equipment shall be perused and approved by PRASA for integration purposes Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Network, Fibre and Switches Backbone Fibre cable Supply and Install 48-core Single Mode OFC 9/125um 10GB/s at 10000m, OD = 6mm with Kevlar Yarn installed to PRASA Specification into: Suspended trunking in open Shed roofs: Materials R Labour R	m	115		
118		Open cable trays in open Shed roofs: Materials R Labour R	m			Rate only
119		Open cable trays in open ceiling void: Materials R Labour R	m	450		
120		Terminate 48-Core OFC cable above Terminations for cable - float (complete with end connectors, Slicing kit, Fibre tray/Organiser, Test) and patch 2 cores: Splice of Cable above: Materials R Labour R	Sets	4		
121		Fibre Splicing Kits Materials R Labour R	Sets	2		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
122		Cabinets Supply and Install cabinets (MODRAC) with removable side panels, brush panel, Filler panels, slack rack, cable retainer, Joint Kit, VCM Management Plates with Holes, Cable management trays, 4 way fans, 10 way power duct, lockable (glass) doors and nuts with panel mount profile or base complete Freestanding43U Materials R Labour R	Item	2		
123		19U Materials R Labour R	Item	4		
124		9U Materials R Labour R	Item	0		
125		9U (Wall mount) Materials R Labour R	Item	4		
126		12U (Wall mount) Materials R Labour R	Item	1		
127		Distribution Layer EquipmentSupply and Install rack mount equipment complete with terminations, certificate test results per point, labelling, power supplies, kettle cords and floor plan documentationFibre Patch Panels12 Port - Fibre Patch Panel for Single mode fibre Materials R Labour R	Item	1		
128		24 Port - Fibre Patch Panel for Single mode fibre Materials R Labour R	Item	1		
129		Core SwitchType 3 - 24 Port SFP Ethernet Layer 3 SwitchSupply and Install Switch complete with 4 RJ45 Ports 10/100/1000Base-Tx, 24SFP/Mini-GBIC slots, 1000Base-SX/LX/BX and 100Base-FX SFP transceiver compatible, 4SFP+Slots, 10GBase SR/LR and 1000Base-SX/LX/BX, Cisco FlexStack stacking module with 20 Gbps of throughput or equivalent Materials R Labour R	Item	1		
130		Layer 3 Management - Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification Item 347 Page 46 Supply and Install Local Hard Drive - allow for 6x8TB Hot-plug with Raid controller and Widows server 2012 Materials R Labour R	Item	1		
131		Integration of services:CCTV and NVR Switches Materials R Labour R	SUM	1		
132		Access Control Management, Turnstile Server Materials R Labour R	SUM	1		
133		IT LAN Neotel Patch Voice and Data Materials R Labour R	SUM	1		
134		PA System Amplifiers and Microphone Materials R Labour R	SUM	1		
135		GSM-R Materials R Labour R	SUM	1		
136		Automatic Vehicle Inspection - SAP linked from Plant Maintenance module Materials R Labour R	SUM	1		
137		Automatic steel wheel latch communication Materials R Labour R	SUM	1		
138		Railcom (future) Materials R Labour R	SUM	1		
139		Software, Configuration, Licencing, Warrantee for Distribution Layer Completely Materials R Labour R	SUM	1		
140		Fibre - Fly LeadsSupply and Install Single Mode Fibre LC-LC Duplex Patch Cords or as required:1m Materials R Labour R	SUM	165		
141		3m Materials R Labour R	SUM	80		
142		Access Layer (10G Switch with 1G Access)Supply and Install rack mount equipment complete with terminations, certificate test results per point, labelling, power supplies, kettle cords and floor plan documentation1x48 Port UTP (Cat6E) Ethernet LAN Patch panel with carrier Materials R Labour R	Item	1		
143		1x24 Port UTP (Cat6E) Ethernet LAN Patch panel with carrier Materials R Labour R	Item	2		
144		1x12 Port UTP (Cat6E) Ethernet LAN Patch panel with carrier Materials R Labour R	Item			Rate only
145		Network Switch - Type 2 - 24 Port Ethernet PoE Layer 2 Switch Materials R Labour R	Item			Rate only
146		Supply and Install Switch with 24 RJ45 Ports 10/100/1000Base-Tx PoE, 2 RJ45/SFP Gig Combo ports, 24 IEEE 802.3af/at device powered, Cisco FlexStack stacking module with 20Gbps of throughput Materials R Labour R	Item	2		
147		Layer 2 Management - Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification Item 346. Page 46. Network Switch - Type 1 - 4 Port Ethernet to SFP Industrial Media Converter PoE Layer 1 Switch Materials R Labour R	SUM	1		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
148		Media Converter, 100Mbps/1Gbps Multirate Support, 1SFP Port + 4RJ45 Copper Port, with POE+ (30W IEEE 802.3at). Network Switch - Type 1.1 - 12 Port Ethernet to SFP Industrial Media Converter PoE Layer 1 Switch Materials R Labour R	Item	3		
149		Media Converter, 100Mbps/1Gbps Multirate Support, 1SFP Port + 12RJ45 Copper Port, with POE+ (30W IEEE 802.3at) Materials R Labour R	Item	2		
150		Software, Configuration, Licencing, Warrantee for Access Layer Completely Materials R Labour R	SUM	1		
151		Rack Mounted UPSSupply, configure and install direct online, double conversion, pure sine UPS complete with multiple kettle cords 6kVA Single Phase Materials R Labour R	Item	2		
152		1kVA Single Phase Materials R Labour R	Item	4		
153		Free Standing UPSSupply, configure and install direct online, double conversion, pure sine UPS complete with multiple kettle cords 25kVA 3ph True sine double conversion UPS Materials R Labour R	Item	1		
154		User Access Point terminal Cat6ESupply and install Cat6E Data Module Complete with cradle, labelling and floor plan Point Materials R Labour R	Item	68		
155		Wifi Point Materials R Labour R	Item	14		
156		Supply and install complete UTP Cat6E Moulded - Fly leads 3m - Cat6E fly lead Materials R Labour R	Item			Rate only
157		2m - Cat6E fly lead Materials R Labour R	Item			Rate only
158		1m - Cat6E fly lead Materials R Labour R	Item	68		
159		VoIP Telephone SystemSupply, Configure and install completeTelephony Management Server (Huawei) with Software and Configuration Materials R Labour R	SUM	1		
160		Supply, Configure and install completeIP Handsets (Huawei) Materials R Labour R	Item	200		
161		Huawei Phone Licences Materials R Labour R	Item	200		
162		Software Licensing Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Voice and Data NetworksAll software and licensing requirements Materials R Labour R	SUM	1		
163		3 Years software support Materials R Labour R	SUM	1		
164		Public AddressSupply and install complete to the PRASA Specification Document V5 ISMS Requirements-11May 2016. All proposed equipment shall be perused and approved by PRASA for integration purposesComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Network, Fibre and SwitchesPublic Address SystemAll units to include mounting brackets, power supplies amplifiers installed in network data racks, electrical wires, screen wire, speaker wires in conduit, earthing, wiring, LAN cables to switches, terminations, connectors, software. Voice Evacuation Frame for 25 zones (Bittner) Materials R Labour R	Item	1		
165		Digital Power Amplifier Materials R Labour R	Item	4		
166		Emergency Power Supply Materials R Labour R	SUM	2		
167		12V Special Battery Materials R Labour R	SUM	4		
168		Universal Interface Module Materials R Labour R	Item	2		
169		PAMMI Server Materials R Labour R	SUM	1		
170		Commissioning of the above Materials R Labour R	SUM	1		
171		Supply and install cabinets (MODRAC) with removable side panels, brush panel, Filler panels, slack rack, cable retainer, Joint Kit, VCM Management Plates with Holes, Cable management trays, 4 way fans, 10 way power duct, lockable (glass) doors and nuts with panel mount profile or base complete43U (Floor Standing) Materials R Labour R	Item	1		
172		9U (Wall Mounted) Materials R Labour R	Item	1		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
173		Remote Paging Station Materials R Labour R	Item	1		
174		Remote Microphone Extension Materials R Labour R	Item	3		
175		Horn Speakers Materials R Labour R	Item	23		
176		6W Clip in Compact Ceiling Mount Speakers Materials R Labour R	Item	11		
177		Speaker Cables for Horn speaker 15m apart Materials R Labour R	SUM	1		
178		Speaker Cables for ceiling speaker 10m apart Materials R Labour R	SUM	1		
179		Termination of cables above Materials R Labour R	SUM	1		
180		Horn Sounder Materials R Labour R	Item	1		
181		Flashing Lights Materials R Labour R	Item	30		
182		2.5mm Twisted pair Sounder and Lights 30 m apart Materials R Labour R	SUM	1		
183		Termination of cables above Materials R Labour R	SUM	1		
184		Various Specialised Cables Materials R Labour R	SUM	1		
185		Termination of cables above Materials R Labour R	SUM	1		
186		Fire Alarm integration Materials R Labour R	SUM	1		
187		Public Evacuation module Materials R Labour R	SUM	1		
188		Boardroom Audio VisualSupply and install complete:Overhead Projector with remote wall mounted controller Materials R Labour R	Item	3		
189		Automatic Projector Screen Unit with wall mounted controller complete with wall mounted projector screen Materials R Labour R	Item	3		
190		Ceiling mounted Recessed speaker system with table microphone - Polycom system Materials R Labour R	Item	3		
191		Wall mounted interactive white boards with laptop/wifi connection and telephone conference facility Materials R Labour R	Item	3		
192		Speaker amplifier Materials R Labour R	Item	3		
193		Speaker Cables Materials R Labour R	SUM	1		
194		Termination of Cables above Materials R Labour R	SUM	1		
195		Various Cables Materials R Labour R	Item			Rate only
196		Termination of Cables aboveMaterials R Labour R	SUM	1		
197		Software Licensing Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Public AddressAll software and licensing requirements Materials R Labour R	SUM	1		
198		3 Years software support Materials R Labour R	SUM	1		
199		Intruder Alarm System Supply and Install complete to the PRASA Specification Document_V5 ISMS Requirements-11May 2016. All proposed equipment shall be perused and approved by PRASA for integration purposesComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Intruder Alarms - EquipmentAll units to include mounting brackets, alarm sounder, sealed NiCad battery, charger, conduit, communication to Mimic Panel in Guard house, via LAN wiring and external armed response in existing or new wireways, waste and glue.Alarm Panel 8 zone with keypad, expandable to 168 Materials R Labour R	Item			Rate only
200		Siren -15W 12 DC with Power Supply and Back-up Battery Materials R Labour R	Item			Rate only
201		Ethernet link up communicator Materials R Labour R	Item			Rate only
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
202		Alarm Gateway Server R Labour R	Item			Rate only
203		Passive Infra Red Sensors - clockwise Algorithm Materials R Labour R	Item			Rate only
204		Magnetic Door Indicators Materials R Labour R	Item			Rate only
205		Roller Door Monitors Materials R Labour R	Item			Rate only
206		Mimic Panel installed in Guard House complete with Transmitter, Repeaters Receiver Unit - 4 channel with power supply Labour R Materials R	Item			Rate only
207		CCTV Integration R Labour R	SUM			Rate only
208		(Public Address) Evacuation Integration Materials R Labour R	SUM			Rate only
209		CablesSupply, install and test completeCabling from Keypad to Alarm Panel Materials R Labour R	SUM			Rate only
210		Termination of cable above R Labour R	Item			Rate only
211		Cabling from PIR and Door Contacts to Alarm Panel Materials R Labour R	SUM			Rate only
212		Termination of cable above Materials R Labour R	Item			Rate only
213		Cabling from Roller Mag Contacts to Alarm Panel Materials R Labour R	SUM			Rate only
214		Termination of cable above Materials R Labour R	Item			Rate only
215		Cable from Alarm Panel to Ethernet Communicator Materials R Labour R R	SUM			Rate only
216		Termination of cable above Materials R Labour R	Item			Rate only
217		Various Specialised Cables Materials R Labour R	SUM			Rate only
218		Termination of cable above Materials R Labour R	SUM			Rate only
219		Software Licencing Comply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Intruder Alarm SystemAll software and licensing requirements R Labour R Materials	SUM			Rate only
220		3 Years software support Materials R Labour R	SUM			Rate only
221		2 Year subscription to link the alarm system to a local armed response Materials R Labour R	SUM			Rate only
222		Fire Detection System (Aritech or equivalent)Supply and Install complete to the PRASA Specification Document V5 ISMS Requirements-11May 2016. All proposed equipment shall be perused and approved by PRASA for integration purposesComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Intruder Alarms - Control panelAnalogue addressable Fire Panel, complete with power supply and mounting accessories completeFire Alarm Panel 4 loops with up to 512 zones Labour R Materials R	Item	3		
223		Mimic Panel compete Materials R Labour R	Item	1		
224		PAK enables 900 series protocol Materials R Labour R	Item	3		
225		Network Node from 32 - 128 loops Materials R Labour R	Item	3		
226		PSU Materials R Labour R	Item	1		
227		Battery Materials R Labour R	Item	1		
228		Detectors supply, installed and connected Thermal Heat Detector Materials R Labour R	Item			Rate only
229		Optical Smoke Detector Surface Materials R Labour R	Item	1		
230		Flush mounted Optical Smoke Detector Materials R Labour R	Item	15		
231		Multisensor Detector, Optical/Thermal Materials R Labour R	Item	22		
		Carried Forward				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Brought Forward						
232		Detector Base Materials R Labour R	Item	46		
233		Remote Indicators Materials R Labour R	Item	46		
234		Infra-Red Flame Detector Materials R Labour R	Item	4		
235		Optical Beam Transmitter with Fault Relay Materials R Labour R	Item	4		
236		Optical Beam Receiver with Fault Relay Materials R Labour R	Item	4		
237		Aspirated Detectors Materials R Labour R	Item	1		
238		Power Supply Materials R Labour R	Item	1		
239		Pipe with 5 meter detection points Materials R Labour R	m	150		
240		Detector pipe connection Materials R Labour R	SUM	1		
241		End cap including accessories Materials R Labour R	SUM	1		
242		Manual Call Points Breakglass Unit Materials R Labour R	Item	10		
243		Breakglass Unit, IP66 Materials R Labour R	Item	23		
244		Interface Modules Zone Isolators Materials R Labour R	Item	11		
245		Input/Output Units Materials R Labour R	Item	11		
246		Signalling Devices (Loop Powered) Base sounder, 100dB(A) Materials R Labour R	Item	23		
247		Strobe, Red Materials R Labour R	Item	23		
248		Strobe/Sounder combination unit Materials R Labour R	Item	10		
249		CommunicationsCommunicate to local Fire Brigade Materials R Labour R	SUM	1		
250		InterfaceSystem interface with BMS Materials R Labour R	SUM	1		
251		System interface with HVAC. Materials R Labour R	SUM	1		
252		System interface with Lifts Materials R Labour R	SUM	1		
253		System interface with Access Control System Materials R Labour R	SUM	1		
254		System interface with Public Address System Materials R Labour R	SUM	1		
255		System interface with Generators Materials R Labour R	SUM	1		
256		System interface with CCTV Materials R Labour R	SUM	1		
257		System Monitor Desktop Computer, including screen and printer Materials R Labour R	Item	1		
258		Cabling PH30 Fire detection cable Materials R Labour R	m	1 100		
259		Pier to Pier CommunicationSupply and Install 12-core Single Mode OFC 9/125um 10GB/s at 10000m, OD = 6mm with Kevlar Yarn installed into:proposed new pipe and chamber systems Materials R Labour R	m			Rate only
260		Existing pipe and chamber systems Materials R Labour R	m			Rate only
261		Open cable trays in open Shed roofs Materials R Labour R	m			Rate only
262		Open cable trays in open ceiling void Materials R Labour R	m	10		
263		Terminate 12-Core OFC cable aboveTerminations for cable - float (complete with end connectors, Slicing kit, Fibre tray/Organiser, Test) and patch 2 cores:Splice of Cable above: Materials R Labour R	Item	2		
264		Fibre Splicing Kits Materials R Labour R	Item	1		
Carried Forward						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Brought Forward				
265		Fire Communication EnclosureWall Mounted lockable Steel Box (wxhxd) 300mmx600mm200mm with hinged lid powder coated tan/brown Materials R Labour R	Item	1		
266		Media Convert Single PoE to SFP Materials R Labour R	Item	1		
267		Injector Port PoE Materials R Labour R	Item	2		
268		Media Converter, 100Mbps/1Gbps Multirate Support, 1SFP Port + 1RJ45 Copper Port, with POE+ (30W IEEE 802.3at) Materials R Labour R	Item	2		
269		SFPMaterials R Labour R	Item	2		
270		30W Switch Mode Power SupplyMaterials R Labour R	Item	2		
271		Mylar Cat 5e Fly Leads RJ45 - RJ451m Fly Lead Materials R Labour R	Item	2		
272		2m Fly Lead Materials R Labour R	Item	2		
273		Conduiting (include fixing)20mm diameter galvanised steel Materials R Labour R	m	508		
274		20mm diameter galvanised steel (Chased in wall) Materials R Labour R	m	100		
275		20mm diameter PVC Materials R Labour R	m	425		
276		20mm diameter PVC (Chased in wall) Materials R Labour R	m	70		
278		20mm Sprag Materials R Labour R	m			Rate only
279		Round boxes 62mm Round boxes with cover galvanised steel Materials R Labour R	Item	46		
280		62mm Round boxes with cover PVC Materials R Labour R	Item	14		
281		Back boxes Materials R Labour R	Item			Rate only
282		100mmx100mm PVC Materials R Labour R	Item	36		
283		Software LicencingComply with PRASA Project Specification - PHYSICAL AND ELECTRONIC SECURITY 20180611- Detailed Security Specification - Requirement for Intruder Alarm SystemSoftware packageAll software and licensing requirements Materials R Labour R	SUM	1		
284		3 Years software support Materials R Labour R	SUM	1		
285		Test & Commissioning Materials R Labour R	SUM	1		
286		Drawings & Documentation Materials R Labour R	SUM	1		
287		Training Materials R Labour R	SUM	1		
288		Fire Detection Equipment Floor Layout Big Area Materials R Labour R	SUM	1		
		Carried Forward to Summary of Section No. 16				

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<u>BILL NO. 4 : PROVISIONAL SUMS</u>						
<u>Contract Name: Durban Lifting Shop Extension Schedule: 4 Provisional sums</u>						
1		Provisional Cost Items Liaison Liaise with Depot Staff for protection of existing services	Item	1	25 000,00	
2		Mark-up	%IT			
3		Services Relocate existing telecommunication services	Item	1	45 000,00	
4		Mark-up	%IT			
5		Building Work	Item	1	75 000,00	
6		Mark-up	%IT			
7		Pipe and Chamber Allowance for the identification and cleaning of the existing pipe and chamber system	Item	1	10 000,00	
8		Mark-up	%IT			
9		Wi-Fi Meshed Wi-Fi to new Buildings	Item	1	70 000,00	
10		Mark-up	%IT			
Carried Forward to Summary of Section No. 16						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - ELECTRONICS		Page No		
1		PRELIMINARY AND GENERAL	Page	200		
2		GENERAL COMPLIANCE	Page	201		
3		ICT AND ELECTRONICS	Page	212		
4		PROVISIONAL SUMS	Page	213		
Carried to Final Summary						

Carried Forward to Summary of Section No. 17

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 2</u>				
		<u>TARGETED ENTERPRISE: LOCAL INFRASTRUCTURE CONTRACTORS</u>				
		<u>NOTES:</u>				
		Note to tenderers: Compliance with CPG requirements				
		<u>Targeted Enterprises: Local Infrastructure Contractors. Minimum % value of work to be sub-</u> <u>contracted to Targeted Enterprise is 30% of the Accepted Contract Amount</u>				
1		Contractors Costs for implementing the CPG with respect to Targeted Enterprises	Sum	1		
Carried Forward to Summary of Section No. 17						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 3</u>				
		<u>CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)</u>				
		<u>CONTRACT SKILLS DEVELOPMENT GOAL (CSDG) 0.375% of "Tender Sub-Total"</u>				
1		Compliance with the CIDB Standard: The Contractor shall comply with the Standard for Developing Skills through Infrastructure Contracts (Government Gazette No. 48491, 28 April 2023) for the applicable class of construction works. (0.375% of Tender Sum (excl. Vat)	%	0,375%		
2		Training, Mentorship, Monitoring and Reporting relating to item 1 above	Sum	1		
Carried Forward to Summary of Section No. 17						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 4</u>				
		<u>TARGETED ENTERPRISE DEVELOPMENT</u>				
		<u>TARGETED ENTERPRISE DEVELOPMENT</u>				
1		Appointment of Enterprise Development co-ordinator	Sum	1,00		
2		Appointment of Mentor /Training Service provider	Sum	1,00		
3		Needs Analysis and Enterprise Development Plan per Targeted Enterprise	Sum	1,00		
4		Monitoring and Interim reporting per targeted enterprise	Sum	1,00		
5		Project Completion report per Targeted Enterprise	No	50,00		
Carried Forward to Summary of Section No. 17						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		<u>BILL NO. 5</u>				
		<u>COMMUNITY LIAISON OFFICER</u>				
		<u>NOTES</u>				
		Tenderers are advised to study the Additional Specification SL: Employment and Training of Labour on the Expanded Public Works Programme (EPWP) Infrastructure Projects: National Youth Service, as bound elsewhere in the Bills of Quantities, and then price this Bill accordingly				
		<u>COMMUNITY LIAISON OFFICER</u>				
1		Community Liaison Officer	Sum	1	540 000,00	
		<u>CPG (ESD, CSDG, LOCAL LABOUR)</u>				
2		Co-ordinating, Monitoring and Interim reporting on CPG progress	Sum	1,00		
Carried Forward to Summary of Section No. 17						

THE APPOINTMENT OF CONTRACTOR FOR THE CONSTRUCTION OF DURBAN YARD LIFTING SHED AND ASSOCIATED BUILDINGS PROJECT

ITEM NO	SANS PAY REF	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
Bill No		SECTION SUMMARY - CONTRACT PARTICIPATION GOAL		Page No		
1		TARGETED LABOUR	Page	215		
2		TARGETED ENTERPRISE: LOCAL INFRASTRUCTURE CONTRACTORS	Page	216		
3		CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)	Page	217		
4		TARGETED ENTERPRISE DEVELOPMENT	Page	218		
5		COMMUNITY LIAISON OFFICER	Page	219		
Carried to Final Summary						

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Carried to Form of Tender