

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 1</u>			
	<u>BILL NO. 1</u>			
	<u>PRELIMINARIES AND GENERAL</u>			
	The JBCC General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the JBCC Principal Building Agreement (Edition 6.2 - May 2018) shall be deemed to be incorporated in these bills of quantities Contractors are referred to the above mentioned documents for the full intent and meaning of each clause thereof These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above mentioned documents			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles. Supplementary preambles are incorporated in these bills of quantities 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			
	Carried Forward		R	
	Section No. 1 Bill No. 1 Preliminaries and General			

Brought Forward			R
<u>PRICING OF PRELIMINARIES</u>			
The contractor is required to submit a detailed breakdown, calculation and cash flow over the anticipated contract period for preliminaries with tender submission. This cash flow of preliminaries will not only be used for tender adjudication purposes on this specific project but will also serve as the basis for monthly valuation purposes (value of preliminaries included in the certificate)			
<u>REMEASUREMENT OF WORKS</u>			
Please note that all measurements according to Standard System of Measurement Building Work (Quantity Surveyors Edition)			
<u>SECTION A - PRINCIPAL BUILDING AGREEMENT</u>			
1	Clause 1.0 - Definitions and interpretation F:.....V:.....T:.....	Item	
2	Clause 2.0 - Law, Regulations and notices F:.....V:.....T:.....	Item	
3	Clause 3.0 - Offer and acceptance F:.....V:.....T:.....	Item	
4	Clause 4.0 - Cession and assignment F:.....V:.....T:.....	Item	
5	Clause 5.0 - Documents F:.....V:.....T:.....	Item	
6	Clause 6.0 - Employer's Agents F:.....V:.....T:.....	Item	
Carried Forward			R
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	Brought Forward		R
7	Clause 7.0 - Design Responsibility F:.....V:.....T:.....	Item	
8	Clause 8.0 - Works risk F:.....V:.....T:.....	Item	
9	Clause 9.0 - Indemnities F:.....V:.....T:.....	Item	
10	Clause 10.0 - insurances F:.....V:.....T:.....	Item	
11	Clause 11.0 - Securities F:.....V:.....T:.....	Item	
12	Clause 12.0 - Obligations of the parties Clause 21.1 to be amended to read as follows: "The Employer will not issue a payment guarantee" F:.....V:.....T:.....	Item	
13	Clause 13.0 - Setting out F:.....V:.....T:.....	Item	
14	Clause 14.0 - Nominated Subcontractors F:.....V:.....T:.....	Item	
15	Clause 15.0 - Selected Subcontractors F:.....V:.....T:	Item	
16	Clause 16.0 - Direct Contractors F:.....V:.....T:.....	Item	
	Carried Forward		R
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	Brought Forward		R
17	Clause 17.0 - Contract instructions F:.....V:.....T:.....	Item	
18	Clause 18.0 - Interim Completion F:.....V:.....T:.....	Item	
19	Clause 19.0 - Practical Completion F:.....V:.....T:.....	Item	
20	Clause 20.0 - Completion in sections F:.....V:.....T:.....	Item	
21	Clause 21.0 - Defects liability period and final completion . F:.....V:.....T:.....	Item	
22	Clause 22.0 - Latent defects liability period F:.....V:.....T:.....	Item	
23	Clause 23.0 - Revision of the date for practical completion F:.....V:.....T:.....	Item	
24	Clause 24.0 - Penalty for late or non completion F:.....V:.....T:.....	Item	
	Carried Forward		R
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	Brought Forward		R
25	Clause 25.0 - Payment clause 25.10 to be amended to read as follows: "The employer shall pay the contractor the amount certified in an issued payment certificate within thirty one (31) calendar days of the date of issue of the payment certificate. F:.....V:.....T:.....	Item	
26	Clause 26.0 - Adjustment of the contract value and final account F:.....V:.....T:.....	Item	
27	Clause 27.0 - Recovery of expense and/or loss F:.....V:.....T:.....	Item	
28	Clause 28.0 - Suspension and termination F:.....V:.....T:.....	Item	
29	Clause 29.0 - Termination F:.....V:.....T:.....	Item	
30	Clause 30.0 - Dispute resolution F:.....V:.....T:..... <u>SECTION B - PRELIMINARIES</u> <u>Definitions and interpretation</u>		
31	Clause 1.0 - Definitions and interpretation F:.....V:.....T:..... <u>Documents</u>	Item	
32	Clause 2.1 - Checking of documents F:.....V:.....T:.....	Item	
	Carried Forward		R
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	Brought Forward		R
33	Clause 2.2 - Provisional bills of quantities These bills of quantities are provisional and will be re-measured in its entirety F:.....V:.....T:.....	Item	
34	Clause 2.3 - Availability of construction information F:.....V:.....T:.....	Item	
35	Clause 2.4 - Ordering of materials and goods F:.....V:.....T:.....	Item	
	<u>Previous work and adjoining properties</u>		
36	Clause 3.1 - Previous work - dimensional accuracy F:.....V:.....T:.....	Item	
37	Clause 3.2 - Previous work - defects F:.....V:.....T:.....	Item	
38	Clause 3.3 - Inspection of adjoining properties F:.....V:.....T:.....	Item	
	<u>The site</u>		
39	Clause 4.1 - Handover of site in stages F:.....V:.....T:.....	Item	
40	Clause 4.2 - Enclosure of the works F:.....V:.....T:.....	Item	
41	Clause 4.3 - Geotechnical and other investigation F:.....V:.....T:.....	Item	
42	Clause 4.4 - Encroachments F:.....V:.....T:.....	Item	
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	Brought Forward		R
43	Clause 4.5 - existing premises occupied F:.....V:.....T:.....	Item	
44	Clause 4.6 - Services - known F:.....V:.....T:.....	Item	
	<u>Management of contract</u>		
45	Clause 5.1 - Deposits and fees F:.....V:.....T:.....	Item	
46	Clause 5.2 - Progress meetings F:.....V:.....T:.....	Item	
47	Clause 5.3 - Technical meetings F:.....V:.....T:.....	Item	
	<u>Samples, shop drawings etc</u>		
48	Clause 6.1 - Samples of materials F:.....V:.....T:.....	Item	
49	Clause 6.2 - Workmanship samples F:.....V:.....T:..... .	Item	
50	Clause 6.3 - Shop drawings F:.....V:.....T:.....	Item	
51	Clause 6.4 - Compliance with manufacturer's instructions F:.....V:.....T:.....	Item	
	<u>Deposits and fees</u>		
52	Clause 7.1 - Deposits and fees F:.....V:.....T:.....	Item	
	Carried Forward		R
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	Brought Forward		R
	<u>Temporary services</u>		
53	Clause 8.1 - Water WATER - The contractor to provide all necessary labour and material to make suitable connections to the existing site water reticulation system to satisfy his requirements for the execution of the works. Meters are to be installed by the contractor and the cost of consumption will be for the contractor's account. F:.....V:.....T:.....	Item	
54	Clause 8.2 - Electricity ELECTRICITY - The contractor to provide all necessary labour and material to make suitable connections to the existing site electricity reticulation system to satisfy his requirements for the execution of the works. Meters are to be installed by the contractor and the cost of consumption will be for the contractor's account. F:.....V:.....T:.....	Item	
55	Clause 8.3 -Ablution and welfare facilities ABLUTIONS - The contractor to provide ablution facilities. F:.....V:.....T:.....	Item	
56	Clause 8.4 - Communication facilities The contractor to provide communication facilities. F:.....V:.....T:.....	Item	
	<u>Prime Cost amounts</u>		
57	Clause 9.1 - Responsibility for prime cost amounts F:.....V:.....T:.....	Item	
	<u>Attendance on subcontractors</u>		
58	Clause 10.1 - General attendance F:.....V:.....T:.....	Item	
	Carried Forward		R
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	Brought Forward		R
59	Clause 10.2 - Special Attendance F:.....V:.....T:..... <u>General</u>	Item	
60	Clause 11.1 - Protection of the works F:.....V:.....T:.....	Item	
61	Clause 11.2 - Protection/isolation of existing works and works occupied in sections F:.....V:.....T:.....	Item	
62	Clause 11.3 - Security of the works F:.....V:.....T:.....	Item	
63	Clause 11.4 - Notice before covering F:.....V:.....T:.....	Item	
64	Clause 11.5 - Disturbance F:.....V:.....T:.....	Item	
65	Clause 11.6 - Environmental disturbance F:.....V:.....T:.....	Item	
66	Clause 11.7 - Works cleaning and clearing F:.....V:.....T:.....	Item	
67	Clause 11.8 - Vermin F:.....V:.....T:.....	Item	
	Carried Forward		R
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		Brought Forward			R
68	Clause 11.9 - Overhand work				
	F:.....V:.....T:.....	Item			
69	Clause 11.10 - Tenant installations by direct contractors				
	F:.....V:.....T:.....	Item			
70	Clause 11.11 - Advertising				
	F:.....V:.....T:.....	Item			
<u>SECTION C - SPECIFIC PRELIMINARIES</u>					
71	Temporary storage facilities The contractor has to allow for sufficient storage facilities of at least One Office (6m x 3m) with HVAC, board room(6m x 3m) with HVAC and four storage facilities (6m x 3m) for the full duration of the contract period. The facilities should be lockable and watertight with the necessary security features (inter alia security gates, burglar proofing, etc). Temporary containers will be accepted. A dedicated area will be earmarked and pointed out to the contractor after site handover. The area should be level, fenced off with sufficient and acceptable security fencing at least 2.1m high, with one double gate at least 4m wide and acceptable surfacing around the storage facility for large trucks and heavy vehicles to drive and turn. Storm water management within this dedicated area should be of such a nature to avoid muddy areas, ponding or storm water flooding the storage area. Temporary external security lights will be required.				
	F:.....V:.....T:.....	Item			
72	The contractor shall erect a MAIN NOTICE BOARD size 3m x 3m high containing the full description of the project, name of the client, name of the contractor and details of the professional team to the satisfaction of the Principal Agent				
		Item			
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		Brought Forward			R
73	C1.0 CONTRACT DRAWINGS				
	* The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed Should any part of the drawings not be clearly understood by the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent Fixed: _____ Value related: _____ Time related: _____		Item		
74	C2.0 GENERAL PREAMBLES				
	Fixed: _____ Value related: _____ Time related: _____		Item		
75	C3.0 TRADE NAMES				
	Wherever a trade name for any product has been described in the bills of quantities / lump sum document, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for Fixed: _____ Value related: _____ Time related: _____		Item		
76	C4 ACCESS TO CONDOMS				
	Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis Fixed: _____ Value related: _____ Time related: _____		Item		
		Carried Forward			R
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		Brought Forward		R
79	C5.2 HEALTH AND SAFETY PLAN (Construction Regulation 5.4) The Contractor shall provide and demonstrate to the Principal Agent a suitable and sufficiently documented health and safety plan based on the Act, Construction Regulations and the health and safety specification, which shall be applied from the date of commencement of and for the duration of the construction work. The Contractor shall ensure that a copy of the health and safety plan is available on request to an employee, inspector, sub contractor or principal agent all in terms of Regulation 5 Fixed:_____ Value related:_____ Time related:_____		Item	
80	C5.3 REGISTRATION WITH THE COMPENSATION FUND (Construction Regulation 5.3 f) The Contractor shall provide proof of his registration and good standing with the Compensation Fund or a licensed compensation insurer prior to the commencement of work Fixed:_____ Value related:_____ Time related:_____		Item	
81	C5.4 HEALTH AND SAFETY FILE (Construction Regulation 5.7) The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the health and safety specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Principal Agent or Inspector upon request. Upon completion of the works, the Contractor shall hand over a consolidated health and safety file to the principal agent Fixed:_____ Value related:_____ Time related:_____		Item	
		Carried Forward		R
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	Brought Forward		R
82	C5.5 SUPERVISION OF CONSTRUCTION WORK (SAFETY OFFICER) (Construction Regulation 6) The Contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work. The Contractor shall appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site. Such appointments are required to ensure that at all times the requirements of the Act and Construction Regulations are adhered to. Refer to Regulation 6 Fixed:_____ Value related:_____ Time related:_____	Item	
83	C5.6 RISK ASSESSMENT AND SAFETY POLICY (Construction Regulation 7) Before commencing work the Contractor shall prepare a risk assessment report to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan. A copy of the risk assessment shall be available on site at all times for inspection. The Contractor shall at all time carry out the works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. He shall take all precautions regarding training of employees in any hazards and the related work procedures, health and safety induction training of employees, visitors or any other persons entering the site and provide personal protective equipment to all employees and visitors to site which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property in terms of Regulation 7 Fixed:_____ Value related:_____ Time related:_____	Item	
84	C5.7 SIGNIFICANT HAZARDS IDENTIFICATION RISK ASSESSMENT PREPARED BY THE DESIGN CONSULTANTS The contractor shall allow for additional financial provision, if any, to take the necessary precautions regarding the significant hazards and risks identified and assessed by the design consultants Fixed:_____ Value related:_____ Time related:_____	Item	
	Carried Forward		R
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		Brought Forward			R
85	C5.8 ADDITIONAL FINANCIAL PROVISION				
	The Contractor shall allow for additional financial provision, if any, to comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993) and the Construction Regulations issued there under which have not been specifically elsewhere provided Fixed:_____ Value related:_____ Time related:_____		Item		
86	C5.9 FALL PROTECTION PLAN (Construction Regulation 8)				
	The contractor shall, before commencing any construction work submit a fall protection plan identified all steps to be taken in order to ensure the continued adherence to the fall protection plan and shall include a risk assessment of all work carried out from an relevant position. The fall protection plan shall form part of the health and safety plan and file Fixed:_____ Value related:_____ Time related:_____		Item		
87	C5.10 PHYSICAL AND PSYCHOLOGICAL FITNESS (Construction Regulation 8.2(b))				
	The contractor and sub-contractors shall before commencing any construction work submit proof of his employees that shall carried out work from an elevated position their physical and psychological fitness. And shall be recorded in the health and safety file Fixed:_____ Value related:_____ Time related:_____		Item		
88	C5.11 CONSTRUCTION VEHICLES AND MOBILE PLANT (Construction Regulation 21)				
	The contractor and sub-contractors shall ensure that all operated workers received training and been certified competent to operate such vehicle, and are physical and psychological fit to operate such construction vehicles and mobile plants. And shall be recorded in the health and safety file Fixed:_____ Value related:_____ Time related:_____		Item		
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	Brought Forward		
89	C5.12 TRAINING (Construction Regulation 8 (c)) The contractor and sub-contractors shall, before commencing any construction work, submit his training program of all his employees. This program shall form part of the health and safety plan Fixed:_____ Value related:_____ Time related:_____	Item	
90	C5.13 DEMOLITION WORK (Construction Regulation 12) The contractor shall, before any demolition work shall carried out, submit all method of demolition to be used. This method shall form part of the health and safety plan and file. Fixed:_____ Value related:_____ Time related:_____	Item	
91	C5.14 OHS COMPLIANCE FOR COVID 19 REQUIREMENTS <u>OHS Act and construction Regulations (2014)</u>	Item	
92	Review of OHS Plan for each assignment. Rate to Include for risk assessment specific to the COVID-19 Epidemic and other adjustment to ensure compliance for the assignment	Item	
93	Principal Contractor's Fixed Cost obligation in respect of the OHS Act and Constuction Regulations Signage-COVID - 19 Related	Item	
	<u>Provision of Personal protective equipment and protective clothing</u>		
94	Including but not restricted to Reflective Vests	No	250
95	Including but not restricted to Reflective Bibs	No	250
96	Including but not restricted to Hard Hats	No	250
97	Including but not restricted to Protective footwear	No	250
98	Including but not restricted to Earplugs	No	250
99	Including but not restricted to Dust Masks	No	250
	Carried Forward		
	Section No. 1 Bill No. 1 Preliminaries and General		

R

R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
100	Face Mask for Covid - 19 (respiratory protection (as required)	No 250	
101	Surgical Gloves (for security and cleaning team)	No 250	
102	Safety Goggles for Screening Person	No 250	
103	Provision of full time construction Health & Safety Officer	Item	
	<u>Costs of medical certificate and medical surveillance</u>		
104	Initial (Baseline) medical examinations Screening for Employees with COVID-19 Symptoms	No 1	
105	Exit examinations	No 1	
106	Re-Induction Training for COVID-19	Item	
107	Provision of First Aid Boxes	Item	
108	Non contact thermometers	No 1	
	<u>Fixed Charge items</u>		
109	Contractual requirements	Item	
110	Facilities for Contractor including offices, storage sheds, workshops, laboratories, living accommodation, ablution and latrine facilities, tools and equipment, water supplies, electric power, communications, setting out of Works, security and dealing with water, traffic and access. Made COVID - 19 Safe	Item	
	<u>Other fixed charge obligations for Safety</u>		
111	Hand sanitiser - 500ml	No 250	
112	Cleaning and detergents for cleaning everyday	No 250	
113	Daily logbook for above	No 250	
	<u>Waste management for COVID 19</u>		
114	Waste bins	Item	
115	Cleaning and detergents for cleaning everyday	No 1	
	Carried Forward		R
	Section No. 1 Bill No. 1 Preliminaries and General		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>GREEN BUILDING REQUIREMENTS</u>			
116	The contractor is to allow for Green building requirements F:.....V:.....T:.....	Item	
<u>CONTRACT PRICE ADJUSTMENT</u>			
117	Contract Price Adjustment (Escalation) is applicable for this project F:.....V:.....T:.....	Item	
<u>PAYMENT OF PRELIMINARIES AND GENERAL</u>			
118	Payment of the Preliminaries and General will be effected using Option B. F:.....V:.....T:.....	Item	
<u>ADJUSTMENT OF PRELIMINARIES AND GENERAL</u>			
119	Adjustment of the Preliminaries and General will be effected using Option A. F:.....V:.....T:.....	Item	
<u>PROVISIONAL QUANTITIES</u>			
120	All the quantities in this Bills of Quantities are provisional and subject to remeasurement F:.....V:.....T:.....	Item	
<u>HEALTH AND SAFETY REQUIREMENTS</u>			
121	Site specific Health and Safety requirements see separate document	Item	
<u>READY MIX CONCRETE</u>			
122	All concrete must be Ready mix concrete	Item	
Carried to Final Summary			R
Section No. 1 Bill No. 1 Preliminaries and General			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No	Quantity	Rate	Amount
<u>BILL NO. 1</u>			
<u>ALTERATIONS</u>			
<u>PREAMBLES FOR TRADES</u>			
The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles. All demolished material to be disposed to a dumping site, it is deemed that the costs of moving old material to dumping site are included in the prices.			
<u>REMOVAL OF EXISTING WORKS</u>			
<u>Demolition of concrete including reinforcement</u>			
1	100mm Thick surface bed	m2	418
<u>Breaking down and removing brickwork etc</u>			
2	Half brick walls	m2	435
3	One brick walls	m2	1 222
<u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screeds, plaster, etc</u>			
4	Internal plaster	m2	60
<u>Taking out and removing steel door frames, windows, etc from brickwork to be demolished</u>			
5	Door frames 813 x 2125mm high to One Brick wall	No	191
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 1			
Alterations			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 2</u>			
	<u>EARTHWORKS (PROVISIONAL)</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>SITE CLEARANCE ETC</u>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc, and trees not exceeding 200mm girth. test test	m2	1 778	
	<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
	<u>Excavation in earth not exceeding 2m deep</u>			
2	Trenches	m3	179	
	<u>SOFT AND HARD ROCK, ETC</u>			
	<u>Extra over trench and hole excavation</u>			
3	Soft rock	m3	9	
4	Hard rock	m3	7	
	<u>RISK OF COLLAPSE ETC</u>			
	<u>Risk of collapse of excavations</u>			
5	Sides of trench and hole excavations not exceeding 1,5m deep	m2	1 005	
	Carried Forward			
	Section No. 2			
	Bill No. 2			
	Earthworks			
			R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>FILLING ETC</u>			
<u>Earth filling obtained from excavations and or prescribed stock piles on site compacted to 98% MOD AASHTO</u>			
6	Under floors, steps, paving	m3	259
7	Backfilling to trenches, holes, etc	m3	23
<u>CARTING AWAY</u>			
<u>Extra over all excavations for carting away</u>			
8	Surplus material from stock piles on site to a dumping site to be located by the contractor	m3	627
<u>TESTS</u>			
9	Natural California Bearing Ratio test	No	6
10	Field Density test including "Optimum Moisture Content" (Four readings per test)	No	6
<u>KEEPING EXCAVATIONS FROM WATER</u>			
<u>Keeping excavations free from water</u>			
11	Keeping excavations free from all water other than subterranean water	Item	
<u>COMPACTION</u>			
<u>Compaction of surfaces</u>			
12	Compaction of ground surface under surface beds, ramps etc., including scarifying for a depth of 150mm, breaking down oversize material, trimming and compacting to 93% Mod AASHTO density	m2	2 080
13	Compaction of ground surface in trenches including scarifying for a depth of 150mm, breaking down oversize material adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	575
<u>SOIL POISONING</u>			
Carried Forward			R
Section No. 2 Bill No. 2 Earthworks			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Soil insecticide</u>			
14	To bottoms and sides of trench and hole foundations etc., including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	1 889
15	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	2 058
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 2			
Earthworks			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 3</u>			
	<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>15MPa/19mm concrete</u>			
1	Surface blinding	m3	19	
	<u>20MPa/19mm concrete</u>			
2	Aprons	m3	29	
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>25MPa/19mm concrete</u>			
3	Surface beds etc. including thickenings	m3	85	
4	Strip footings	m3	37	
5	Ground beams	m3	71	
	<u>REINFORCED CONCRETE</u>			
	<u>25MPa/19mm concrete</u>			
6	Slabs, including beams and inverted beams	m3	2	
	Carried Forward			
	Section No. 2			
	Bill No. 3			
	Concrete Formwork and Reinforcement			
			R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
7	Isolated beams	m3	204	
8	Walls	m3	8	
	<u>TEST CUBES</u>			
9	Making and testing 150 x 150 x 150mm concrete test cubes (Provisional)	Sets	6,0	
	<u>CONCRETE SUNDRIES</u>			
	<u>Finishing top surfaces of concrete smooth with a wood float</u>			
10	Surface beds, slabs, etc.	m2	1 204	
	<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>			
	<u>Rough formwork to sides, soffits, etc.</u>			
11	Slabs not exceeding 250mm thick propped up exceeding 1.5m and not exceeding 3.5m high above bearing level	m2	10	
12	Walls	m2	68	
13	Isolated beams propped up exceeding 1.5m and not exceeding 3.5m high above bearing level	m2	1 507	
14	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	14	
	<u>REINFORCEMENT</u>			
	<u>Mesh reinforcement</u>			
15	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	1 204	
16	Standard square fabric mesh Ref 395 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	10	
	<u>High tensile steel reinforcement</u>			
17	Steel reinforcement of various diameters Including all bending and fixing	t	5,91	
	Carried Forward			R
	Section No. 2 Bill No. 3 Concrete Formwork and Reinforcement			

Brought Forward

R

MOVEMENT JOINTS ETC

10mm Movement Joints between vertical concrete surfaces

18	15mm vertical movement joint between concrete surfaces.
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m

545

Carried Forward to Summary of Section No. 2

Section No. 2

Bill No. 3

Concrete Formwork and Reinforcement

R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 4</u>			
	<u>MASONRY</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>FOUNDATIONS</u>			
	<u>Brickwork of NFP clay bricks in class II mortar</u>			
1	Half brick walls	m2	309	
2	One brick walls	m2	79	
	<u>SUPERSTRUCTURE</u>			
	<u>Brickwork of NFP clay bricks in class II mortar</u>			
3	Piers	m3	1	
4	Half brick walls	m2	703	
5	Half brick walls in beamfilling	m2	200	
6	One brick walls	m2	2 562	
7	One brick walls (fire wall)	m2	761	
8	280mm Cavity walls with two half brick outer skins and a 50mm cavity, including wall ties	m2	155	
	<u>2,5mm Brickwork reinforcement</u>			
9	75mm Wide reinforcement built in horizontally	m	5 701	
10	150mm Wide reinforcement built in horizontally	m	10 848	
	Carried Forward			
	Section No. 2			
	Bill No. 4			
	Masonry			
			R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		
11	225mm Wide reinforcement built in horizontally	m	454
	<u>Prestressed pre-fabricated lintels including necessary temporary supports</u>		
12	100 x 70mm Lintels above openings	m	863
	<u>FACE BRICKWORK</u>		
	<u>Roan Satin FBX, manufactured in accordance with 227:2007, bedded and jointed in Class II mortar and pointed with recessed vertical and flush horizontal joints.</u>		
13	Extra over brickwork for face brickwork	m2	1 781
	<u>Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces</u>		
14	Brick on edge coping to window sills	m	233
15	Extra over brickwork for brick-on-edge header course lintels 1 (One) course(s) 85mm high, pointed on face and 230mm Soffit	m	322
	<u>WINDOW SILLS</u>		
	<u>Nutec Window Sill 15 x 150mm</u>		
16	15 x 150mm wide sills set flat and slightly projecting	m	67
	<u>HOOP IRONS</u>		
	<u>Galvanised hoop iron cramps, ties, etc</u>		
17	30 x 1,2mm thick galvanised hoop iron bent around truss and fixed with 4 x 40mm x 2.8mm nails, built in 6 brick courses deep	No	98
Carried Forward to Summary of Section No. 2			
Section No. 2			
Bill No. 4			
Masonry			

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R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 5</u>			
	<u>WATERPROOFING</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>DAMP-PROOFING OF WALLS AND FLOORS</u>			
	<u>One layer of 375 micron black embossed polyethylene damp-proof course (SANS 952-1985 Type B)</u>			
1	In walls, under windows, etc	m2	365	
	<u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u>			
2	Under surface beds	m2	670	
	Carried Forward to Summary of Section No. 2		R	
	Section No. 2			
	Bill No. 5			
	Waterproofing			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	BILL NO. 6			
	<u>ROOF COVERINGS</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PROFILED METAL SHEETING AND ACCESSORIES</u>			
	<u>0.6mm Klip-Lok 700 profile Galvanised Z275 roof sheeting laid in strict accordance to manufacturer's specification with concealed fixings at 25 deg Pitch on 75x50mm purlins at a max 1600mm centres. On trusses at 1200mm max centres (maximum) on 38x114mm wall plate. All bolt holes are to be drilled</u>			
1	Roof coverings with pitch not exceeding 25 degrees fixed to timber purlins with 750mm c/c spacing	m ²	6 930	
	<u>SHEET METAL FLASHINGS, LININGS, COPINGS, ETC.</u>			
	<u>0.6mm thick Galvanised roof sheeting with concealed fixings, accessories</u>			
2	Ridge flashing, attached on site to suit profile	m	364	
3	Hip flashing, attached on site to suit profile	m	531	
4	Valley flashing, attached on site to suit profile	m	26	
	<u>INSULATION</u>			
	Carried Forward			
	Section No. 2 Bill No. 6 Roof Coverings		R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
5	<u>Alucushion FR206 bubble foil insulation membrane laid on strain wires over the top of purlins from apex to eave over the entire length of building, or equal approved</u> Insulation laid taut over rafters (at approximately 600mm centres) and fixed concurrent with tiling battens, purlins, etc	m2	6 930	
Carried Forward to Summary of Section No. 2 Section No. 2 Bill No. 6 Roof Coverings				R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 7</u>			
	<u>CARPENTRY & JOINERY</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>TIMBER ROOF STRUCTURE</u>			
	<u>Prefabricated metal connector plate roof trusses (Complete Structure)</u>			
1	Design, supply and erection of timber rafter and purlin regular roof trusses including trusses, rafters, bracing, joists, connections, nails, wall plates, purlins, etc (measured flat) SA Pine timber truss with 38mm x 114mm (Grade 6) rafter at 17° pitch, 38mm x 114mm (Grade 6) web members, and 38mm x 152mm (Grade 6) tie-beam, secured to load-bearing walls with galv. steel hoop-iron straps at max. 1200mm c.c. spacing, all to manufacturer's and Engineer's Specification	m2	4 958	
	<u>SOFTWOOD TIMBER</u>			
	<u>Sawn softwood grade 6</u>			
2	38 x 114mm Beams bolted	m	957	
	<u>FASCIAS, BARGEBOARDS, COVER PLATES ETC.</u>			
	<u>Tempered fibre-cement</u>			
3	12 x 225mm Fascia board countersunk screwed to roof timbers with two brass screws at maximum 1200mm centres and jointed with and including standard aluminium halfround cover strips at all joints	m	1 471	
	Carried Forward		R	
	Section No. 2 Bill No. 7 Carpentry and Joinery			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>SKIRTINGS</u>			
<u>Wrought meranti</u>			
4	20 X 75mm high Skirtings including 19mm quadrant beading fixed to walls in long lengths with splayed heading joints and mitred corners with screws and plugs at centres not exceeding 600mm	m	339
<u>DOORS</u>			
<u>Wrought meranti doors hung to steel frames</u>			
5	44mm Framed, ledged and braced batten door 877 x 2125mm high of 44 x 150mm wide top rail and stiles, 16 x 150mm middle ledge and braces and 22 x 230mm bottom ledge, filled in with 22mm V-jointed on one side vertical boarding and covered on other side with 6mm plywood veneer to match door let into and including rebates all round (D7)	No	116
<u>Semi solid flush doors with 3mm tempered "Masonite" veneer on both sides with concealed hardwood edges, hung to steel frames (measured elsewhere)</u>			
6	40mm Single door 1031 x 2125mm high (D4)	No	17
<u>Solid core flush doors with 3mm tempered "Masonite" veneer on both sides with concealed hardwood edges, hung to steel frames (measured elsewhere)</u>			
7	40mm Single door 877 x 2125mm high (D2, D3, D6)	No	105
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 7			
Carpentry and Joinery			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No	Quantity	Rate	Amount
<u>BILL NO 8</u>			
<u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u>			
<u>PREAMBLES FOR TRADE</u>			
The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
<u>NAILED UP AND SCREWED UP CEILINGS</u>			
<u>6mm Everite Nutec Fibre Cement Ceiling complete with mild steel "H" profile junction strips . Fix with 32mm galvanised nails to 50x38mm ceiling battens fixed at right angles to trusses at a max. of 400mm c/c. Treat nails and metal joiners with a metal primer.</u>			
1	Ceilings suspended not exceeding 1m below timber and or steel purlins at 900mm centres	m2	540
2	Ceilings suspended not exceeding 1m below timber and or steel purlins at 900mm centres	m2	4 418
3	Extra over ceilings for ceiling access panel 600 x 600mm	No	33
<u>Cornices to ceilings</u>			
4	50 x 19mm SA pine cornice	m	2 749
5	Upper Edge Cove Polystyrene Cornice (2000 x 60 x 60mm)	m	252
<u>INSULATION</u>			
Carried Forward			R
Section No. 2 Bill No. 8 Ceilings Partitions and Access Flooring			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Insulation</u>			
6	50mm Blanket Insulation	m2	2 176
7	100mm Blanket Insulation	m2	2 782
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 8			
Ceilings Partitions and Access Flooring			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO 9</u>			
	<u>FLOOR COVERINGS</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>VINYL FLOOR TILING</u>			
	<u>2mm thick x 2m wide x 20m fully flexible, non directional heavy duty vinyl sheeting manufactured to specification EN 629 laid in approved adhensive and joints hot seam welded with approved welding rod in compliance to SABS 070 (Spread with a notched trowel to manufacturers installation specifications), on cement screed. Colour and pattern to architects approval</u>			
1	Vinyl Floor	m2	2 525	
	Carried Forward to Summary of Section No. 2		R	
	Section No. 2 Bill No. 9 Floor Coverings			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 9</u>			
	<u>IRONMONGERY</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>HINGES, BOLTS, ETC</u>			
	<u>Union or similar</u>			
1	"37651 RH" Helping indicator bolt	No	21	
	<u>Dorman or similar approved</u>			
2	"DFB-SC-180/150mm Satin chrome flush bolt with heel	No	1	
3	"DFB-SC-181/300 SC" 300mm Satin chrome flush bolt with heel	No	1	
4	"DBC-SS-022" Stanless steel adjustable roller bolt	No	16	
5	"DWC-006" Stainless steel WC indicator and turnknob	Sets	49,0	
	<u>CATCHES, CABIN HOOKS, ETC</u>			
	<u>"Solid" or similar approved</u>			
6	100mm Cabin hook eye including 70x70x20mm chamfered hardwood block twice oiled and plugged	No	59	
	<u>"Dorma" or similar approved</u>			
7	"DHC-SS-030A" Stainless steel hat and coat hook	No	1	
8	DHC-SS-031B" Stainless steel hat and coat hook with rubber buffer	No	58	
	Carried Forward			
	Section No. 2			
	Bill No. 10			
	Ironmongery			

R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>LOCKS</u>			
<u>"Solid" or similar approved</u>			
9	"Code 630" padlock	No	57
<u>"Union" or similar approved</u>			
10	37651 Lock swing over type with and including occupancy signal and emergency release	No	13
<u>"Dorma" or similar approved</u>			
11	"DMWC-SS-008" Stainless steel bathroom deadlock	No	49
12	"DSC054201KD" Satin nickel 43mm Five pin euro-profile single cylinder key to differ	No	28
13	"DDC056001KD" Satin nickel 60mm Five pin euro-profile double cylinder	No	91
14	"DBC006001" Satin nickel 60mm euro-profile bathroom/privacy cylinder	No	1
15	"D036S SS" Satin steel cylinder sash lock	No	90
16	"D037D SS" Stain steel cylinder dead lock	No	30
17	"DKC056501KD" Satin nickel 65mm Five pin euro-profile knob cylinder	No	1
18	"DCE-002" Stainless steel round cylinder escutcheon	Sets	39,0
<u>HANDLES, ETC</u>			
<u>Dorma or equal approved</u>			
19	"DHP-SS-CL 150x300mm" DPH301 Pull handle	No	1
20	"DHP-SS-BL 75X170mm" DPH301 Pull handle	No	65
21	"SH875 CYL S.S" Stainless steel lever on plate with cylinder cutout	Sets	90,0
22	"DRP-SS-023" Stainless steel 62x44mm Ring flush pull handle	No	28
Carried Forward			R
Section No. 2 Bill No. 10 Ironmongery			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
23	"DPH301B" Stainless steel 325x25mm straight tubular pull handle flange fixing	No	18
24	"DHP-SS-CR 150X300" DPH301 Pull handle on 150x300x1.2mm plate cylinder	No	1
	<u>PUSH PLATES, KICKING PLATES ETC</u>		
25	"DPP-SS-BL 170x75mm" Brushed stainless steel blank push plate	No	49
26	"DPP-SS-CL 150x300mm" Push plate cylinder left 150x300x1.2mm	No	1
27	"DPP-SS-CR 150 x 300mm" Push plate cylinder right 150 x 300 x 1.2mm	No	6
28	DKP-SS-200 Kick plate size 1000 x 200 x 1.2mm	No	2
	<u>Approved</u>		
29	915 x 300mm High Stainless steel kick plate	No	4
	<u>SUNDRIES</u>		
	<u>"Dorma" or equal approved</u>		
30	"DDS-NP-018" Nickel plated floor mounted door stop	No	138
	<u>"Chairman Industries" or similar approved</u>		
31	32mm Diameter SR2 stainless steel rear grab rail plugged	No	4
32	32mm Diameter DL2 stainless steel side grab rail plugged	No	11
33	32mm Diameter SR3 pull handle hinged	No	4
	<u>"Solid" or similar approved</u>		
34	19mm Diameter chromium plated towel rail 600mm long incl. end brackets	No	1
	<u>DOOR GRILLES</u>		
	<u>Natural anodised aluminium door louver</u>		
35	Trox or similar approved natural aluminium door louver size 450x300mm high	No	4
	Carried Forward		R
	Section No. 2		
	Bill No. 10		
	Ironmongery		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>LETTER, NAMEPLATES, ETC</u>			
<u>"Dorma" or similar approved</u>			
36	"DSS-132 M/F" Stainless steel 150x150mm Male/Female sign	No	10
37	4DSS-133 P Stainless steel 150 x 150mm Disabled persons sign	No	11
38	"DSS-131 F" Stainless steel 150 x 150mm Female sign	No	10
39	"DSS-130 M" Stainless steel 150 x 150mm Male sign	No	4
<u>Approved</u>			
40	150x150mm Stainless steel "Unisex Toilet" sign	No	5
<u>DOOR CLOSERS</u>			
<u>"Dorma" or similar approved</u>			
41	TS90 EN 3/4 Cam action slide channel NON HOLD OPEN door closer - with hydraulic speed control, pull side - leaf or transform fixing, push side - leaf or transform fixing (Silver) mounted overhead door closer to door of width up to 950mm.	No	4
42	TS73V EN 2-4 Parallel arm DELAYED ACTION push side fixing including parallel arm bracket (Silver) mounted overhead door closer to door of width up to 950mm.	No	1
<u>BATHROOM FITTINGS</u>			
<u>Approved</u>			
43	55mm Diameter chromium plated towel rail 900mm long including end brackets plugged	No	7
<u>CTM or similar approved</u>			
44	"Code TVWR3109" Corner soap basket	No	1
<u>"Franke" or similar approved satin finish stainless steel bathroom accessories fixed to walls in accordance with the manufacturer's specifications</u>			
45	RODX600 Stainless steel paper towel dispenser	No	31
Carried Forward			R
Section No. 2 Bill No. 10 Ironmongery			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
46	"STRX611" Wall mounted stainless steel sanitary towel and disposal bin with a capacity of 3.8 liters with and including removable plastic container and stainless steel screws and dowel	No 41
47	Code RODX672 Double toilet roll holder with spindle system	No 71
48	100 x 304 x 134mm Soap dispenser manufactured from 18/10 Stainless steel, surface satin finish, material thickness 1.5mm, cylinder lock with standard key, including screws and dowels and all other necessary accessories in accordance to manufacturer's specifications or equal approved	No 31
49	"BS605" Wall mounted stainless steel bin with a capacity of 26 litre and stainless steel screws and dowels.	No 24
<u>STEEL CUPBOARDS</u>		
<u>Approved steel lockers with standard baked enamel finish</u>		
50	G10 Double door steel cupboard 914 x 457 x 1828mm high with five shelves bolted	No 2
<u>PINNING BOARDS, WRITING BOARDS, PROJECTION SCREENS, ETC</u>		
<u>"Vitrex" or similar approved</u>		
51	Pinning boards 4000 x 1200mm high fixed to brickwork	No 2
52	Vitrex system enamelled green folding type writing board, with wall mounted centre board 4000 x 1220mm high with chalk rail and two swing leaves each 1200 x 1220mm high plugged	No 50
53	Pinning boards 1200 x 1200mm high fixed to brickwork	No 20
54	Pinning boards 3600 x 1200mm high fixed to brickwork	No 75
<u>LETTERS, NAME PLATES, ETC</u>		
<u>Approved 150x150x3mm thick PVC standard safety signage</u>		
55	Fire extinguisher sign plugged into brickwall	No 60
Carried Forward		
Section No. 2 Bill No. 10 Ironmongery		

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
56	"Arrow" sign plugged into concrete surface bed	No	60
Carried Forward to Summary of Section No. 2 Section No. 2 Bill No. 10 Ironmongery			R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 10</u>			
	<u>STRUCTURAL STEEL</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>COLUMNS, BEAMS, ETC</u>			
	<u>Welded and bolted connection column and beam roof construction to HUB</u>			
1	89 x 3mm Circular Hollow section columns 2975mm high with 2 x 20mm flatbar welded to one side	t	3,00	
	<u>Base plates, bolted to brickwork and concrete</u>			
2	100 x 100 x 10mm base plate with 4 x 18mm diameter holes punched through	No	106	
	<u>BOLTS</u>			
3	12mm, 18mm, 16mm, 20mm, etc. diameter bolts, nuts and washers (Grade 4.6 and 8.8)	No	487	
	<u>SECURITY EXPANDED METAL</u>			
	<u>MENTEX 20 x 60 x 6mm Thick expanded metal (Code: MENTEX70/VEM 325A) fixed to steel frame (steel frame measured elsewhere):</u>			
4	In ceilings	m2	29	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	Bill No. 11			
	Structural Steel			

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No	Quantity	Rate	Amount
<u>BILL NO. 11</u>			
<u>METALWORK (PROVISIONAL)</u>			
<u>PREAMBLES FOR TRADE</u>			
The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
<u>PRESSED STEEL DOOR FRAMES</u>			
<u>1.2mm Single rebated frames suitable for half brick walls</u>			
1	Frame for door 877 x 2125mm high	No 143	
2	Frame for door 877 x 2125mm high with fanlight 877 x 305mm high made with 12 x 12mm metal channel brading	No 4	
3	Frame for door 1031 x 2125mm high	No 1	
<u>1.2mm Single rebated frames suitable for one brick walls</u>			
4	Frame for door 877 x 2125mm high	No 78	
5	Frame for door 1031 x 2125mm high	No 3	
<u>1.2mm Double rebated frames suitable for one brick walls</u>			
6	Frame for door 1511 x 2125mm high	No 8	
7	Frame for door 4533 x 2125mm high	No 1	
<u>GALVANISED STEEL WINDOWS, DOORS, ETC</u>			
Carried Forward			R
Section No. 2 Bill No. 12 Metalwork			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward			R
<u>French door</u>					
8	Double door size 4533 x 2125mm high consisting of four fixed leafs of 756 x 2125mm each (D1)	No	6		
9	Double door 1511 x 2125mm high (D5)	No	11		
<u>ROLLER SHUTTER DOORS</u>					
<u>Custom made galvanised solid slatted steel roller shutter door made to fit aperture/ opening. Serranda "solid slatted" or equal and approved equivalent. To be a galvanised finish with 1.2mm Steel frame/channel guides is/are part of roller Steel frame/channel guides is/are part of roller shutter door and is/are to be made to suit supplier end product. for standard double rebated steel frame. (SABS 1129) for 220mm wall</u>					
10	Door size 1551 x 1251mm high (W13)	No	4		
<u>SECURITY DOORS</u>					
<u>Bischoff Security Door Code:BS6 including heavy duty frame cast into concrete walls</u>					
11	Door size 900 x 2032 mm high	No	1		
<u>GATES</u>					
		Carried Forward			R
Section No. 2 Bill No. 12 Metalwork					

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward			R
		<u>Single leaf mild steel gate of 45 x 45 x 3mm square hollow section frame with 19mm upright rods through two 40 x 6mm flat mild steel rail holed and welded to surrounds. Upright five lever mortice deadlock in steel plate housing. 60 x 60 x 6mm mild steel plate with 13mm hole in centre fixed with 2 x 8mm expansion bolts and drilled into concrete. 12mm and 30mm long oin welded to frame to keep barrel bolt in open position. 13mm hole drilled 15mm deep into concrete to accommodate bolt. 3 x 120mm flat bars welded to gate and gate frame with 25mm mild steel pin type hinge with 15mm steel pin inserted, 35 x 35 x 8mm mild steel flat bar welded to hinge, gate and gate frame. Spring loaded heavy duty gate holder with clip welded to gate frame with 25 x 25 x 3mm mild steel angle iron max. 50mm long welded to 100 x 100 x 3mm backplate bolted to wall with 4 x 6mm rawl bolts, catch riveted to 75 x 75 x 3mm mild steel backplate welded angle iron to each gate leaf. All in accordance with architects drawing (DWG No. ARC-CON-RES-102-Rev.00) Security gate type 1</u>			
12	Gate size 840 x 2097mm high	No	67		
		<u>Single leaf mild steel gate of 45 x 45 x 3mm square hollow section frame with 19mm upright rods through two 40 x 6mm flat mild steel rail holed and welded to surrounds. Upright five lever mortice deadlock in steel plate housing. 60 x 60 x 6mm mild steel plate with 13mm hole in centre fixed with 2 x 8mm expansion bolts and drilled into concrete. 12mm and 30mm long oin welded to frame to keep barrel bolt in open position. 13mm hole drilled 15mm deep into concrete to accommodate bolt. 3 x 120mm flat bars welded to gate and gate frame with 25mm mild steel pin type hinge with 15mm steel pin inserted, 35 x 35 x 8mm mild steel flat bar welded to hinge, gate and gate frame. Spring loaded heavy duty gate holder with clip welded to gate frame with 25 x 25 x 3mm mild steel angle iron max. 50mm long welded to 100 x 100 x 3mm backplate bolted to wall with 4 x 6mm rawl bolts, catch riveted to 75 x 75 x 3mm mild steel backplate welded angle iron to each gate leaf. All in accordance with architects drawing (DWG No. ARC-CON-RES-102-Rev.00) Security gate type 3</u>			
13	Gate size 1755 x 2150mm high	No	2		
		Carried Forward			R
	Section No. 2 Bill No. 12 Metalwork				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward			R
		<u>Double leaf mild steel gate of 45 x 45 x 3mm square hollow section frame with 19mm upright rods through two 40 x 6mm flat mild steel rail holed and welded to surrounds. Upright five lever mortice deadlock in steel plate housing. 60 x 60 x 6mm mild steel plate with 13mm hole in centre fixed with 2 x 8mm expansion bolts and drilled into concrete. 12mm and 30mm long oin welded to frame to keep barrel bolt in open position. 13mm hole drilled 15mm deep into concrete to accommodate bolt. 3 x 120mm flat bars welded to gate and gate frame with 25mm mild steel pin type hinge with 15mm steel pin inserted, 35 x 35 x 8mm mild steel flat bar welded to hinge, gate and gate frame. Spring loaded heavy duty gate holder with clip welded to gate frame with 25 x 25 x 3mm mild steel angle iron max. 50mm long welded to 100 x 100 x 3mm backplate bolted to wall with 4 x 6mm rawl bolts, catch riveted to 75 x 75 x 3mm mild steel backplate welded angle iron to each gate leaf. All in accordance with architects drawing (DWG No. ARC-CON-RES-102-Rev.00) Security gate type 4</u>			
14	Gate size 4500 x 2420mm high, with two fixed leafs of 750 x 2420mm high	No	1		
	<u>ALUMINIUM WINDOWS, ETC.</u> <u>60mm Powder coated, bronze aluminium framing NKCSA casement type for 16mm combinations as supplied by HBS systems or equally approved and to be fixed as per manufacturer's specifications glazed with 8.38mm (Double Glazing) clear float safety glazing Including Ironmongery)</u> <u>Note: Final manufacturing dimensions to be obtained from on-site measurements.</u> <u>Windows</u>				
15	987 x 1445mm high overall, as per architects drawings (W01)	No	59		
16	987 x 511mm high overall, as per architects drawings (W02)	No	66		
17	1303 x 1445mm high overall, as per architects drawings (W03)	No	197		
		Carried Forward			R
	Section No. 2 Bill No. 12 Metalwork				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
18	1511 x 1245mm high overall, as per architects drawings (W04)	No	9	
19	1022 x 654mm high overall, as per architects drawings (W05)	No	20	
20	1022 x 949mm high overall, as per architects drawings (W06)	No	5	
21	1511 x 654mm high overall, as per architects drawings (W08)	No	24	
22	1244 x 1036mm high overall, as per architects drawings (W09)	No	1	
23	2515 x 1036mm high overall, as per architects drawings (W10)	No	3	
24	1302 x 511mm high overall, as per architects drawings (W11)	No	6	
25	1302 x 978mm high overall, as per architects drawings (W14)	No	3	
26	533 x 654mm high overall, as per architects drawings (W17)	No	16	
27	1022 x 654mm high overall, as per architects drawings (W18)	No	1	
28	5730 x 1445mm high overall, as per architects drawings (W19)	No	2	
	<u>60mm Powder coated, bronze aluminium framing</u> <u>NKCASA casement type for 16mm combinations as</u> <u>supplied by HBS systems or equally approved and</u> <u>to be fixed as per manufacturer's specifications</u> <u>glazed with 8.38mm obscure float safety glazing</u> <u>including Ironmongery</u>			
29	533 x 654mm high overall, as per architects drawings (W7)	No	10	
	<u>STEEL MESH CEILINGS</u>			
	<u>High Tensile Steel Mesh Wire (above the suspended</u> <u>ceiling panels)</u>			
30	Steel Mesh Ceilings - Mesh Panels shall be Flatex 346/6320H Stock EC 3.0mm, 1200x2400mm unpainted	m2	820	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	Bill No. 12			
	Metalwork			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 12</u>			
	<u>PLASTERING</u>			
	<u>PREAMBLES FOR TRADE</u>			
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	<u>SCREEDS</u>			
	<u>Screeds on concrete</u>			
1	25mm thick on floors to falls in showers	m2	2	
2	30mm Thick on floors and landings	m2	4 008	
	<u>GRANOLITHIC</u>			
	<u>Grano on concrete to be composed of 2 parts granite or other approved hard stone chippings or hard coarse washed quartzite river sand, graded to maximum size of 5mm, half part clean pit sand screened through a 2.4mm mesh sieve and one part cement.</u>			
3	45mm Thick to floors, ramps etc	m2	1 128	
	<u>INTERNAL PLASTER</u>			
	<u>One coat cement plaster on brickwork and concrete</u>			
4	On internal walls	m2	6 825	
5	On narrow widths	m2	259	
6	On soffit of slabs	m2	29	
	Carried Forward			
	Section No. 2			
	Bill No. 13			
	Plastering			
			R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>One coat gypsum skim plaster finishing coat on one coat plaster on:</u>			
7	Walls	m2	5 474
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 13			
Plastering			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 13</u>			
	<u>TILING</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>FLOOR TILING</u>			
	<u>Floor Tiles (PC Amount of R150 per m2) fixed with adhesive to screed</u>			
1	On floors	m2	2 533	
2	100mm high skirting	m	427	
	<u>WALL TILING</u>			
	<u>Wall Tiles (PC Amount R120 per m2) fixed with adhesive to plaster</u>			
3	On walls	m2	213	
4	On narrow widths	m2	91	
5	On walls in isolated panels	m2	52	
	Carried Forward to Summary of Section No. 2		R	
	Section No. 2			
	Bill No. 14			
	Tiling			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 14</u>			
	<u>PLUMBING & DRAINAGE (PROVISIONAL)</u>			
	<u>Preambles</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>WASTE & VENT PIPEWORK</u>			
	<u>uPVC pipes</u>			
1	38mm pipes	m	21	
2	50mm pipes	m	29	
3	50mm pipes chased into brickwork	m	103	
4	110mm pipes	m	618	
5	110mm pipes laid in and including trenches not exceeding 1m deep	m	71	
6	110mm pipes laid in and including trenches exceeding 1m deep and not exceeding 2m deep	m	105	
7	110mm pipes laid in and including trenches exceeding 2m deep and not exceeding 3m deep	m	55	
8	110mm pipes laid in and including trenches exceeding 3m deep and not exceeding 4m deep	m	95	
	<u>Extra over uPVC pipes for fittings</u>			
9	38mm Bend	No	87	
10	38mm Access bend	No	56	
11	38mm Access junction	No	125	
	Carried Forward			R
	Section No. 2			
	Bill No. 15			
	Plumbing and Drainage			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
12	50mm Bend	No	81	
13	50mm Access bend	No	134	
14	50mm Access junction	No	45	
15	50mm Access reducing junction	No	71	
16	110mm Bend	No	92	
17	110mm Access bend	No	103	
18	110mm Access junction	No	41	
19	110mm Access reducing junction	No	71	
20	100mm Pan connector	No	39	
21	100mm Inspection Eye	No	41	
22	100mm Rodding Eye	No	15	
23	110mm "GI Two-way" vent valve	No	108	
	<u>uPVC Gulleys</u>			
24	110mm Gully not exceeding 750mm deep including standard pre-cast concrete surround	No	85	
	<u>Testing</u>			
25	Testing waste pipe system		Item	
	<u>EXTERNAL WATER SUPPLIES (PROVISIONAL)</u>			
	<u>Class 16 uPVC pressure pipes with solvent welded joints</u>			
26	32mm Pipes in and including trenches not exceeding 1m deep	m	669	
27	50mm Pipes in and including trenches not exceeding 1m deep	m	123	
28	110mm Pipes in and including trenches not exceeding 1m deep	m	195	
	Carried Forward			R
	Section No. 2 Bill No. 15 Plumbing and Drainage			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
	<u>Extra over class 16 uPVC pipes with solvent welded joints</u>		
29	32mm Bend	No	120
30	32mm Tee	No	103
31	32mm Reducing tee	No	104
32	32mm End cap	No	82
33	50mm Bend	No	45
34	50mm Tee	No	56
35	50mm Reducing tee	No	32
36	50mm End cap	No	87
37	110mm Bend	No	105
38	110mm Tee	No	103
39	110mm Reducing tee	No	81
40	110mm End cap	No	118
	<u>INTERNAL WATER SUPPLIES</u>		
	<u>Class 0 copper pipes</u>		
41	15mm Pipes	m	234
42	22mm Pipes	m	238
43	32mm Pipes	m	219
44	42mm Pipes	m	154
45	50mm Pipes	m	129
	<u>Extra over class 0 copper pipes for capillary fittings</u>		
46	15mm Fittings	No	54
47	22mm Fittings	No	32
48	32mm Fittings	No	82
	Carried Forward		R
	Section No. 2 Bill No. 15 Plumbing and Drainage		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			
49	42mm Fittings	No	23
50	50mm Fittings	No	71
<u>Class 10 HDPE type IV pipes</u>			
51	25mm Diameter pipes in and including trenches	m	312
<u>Extra over class 10 HDPE type IV pipes for fittings</u>			
52	25mm Fittings	No	215
<u>Sundries</u>			
53	Unreinforced concrete (20MPA) thrust blocks in trenches, at bends, tees, etc. including excavation, formwork, etc.	m3	219
<u>Testing</u>			
54	Testing waste pipe system		Item
<u>SANITARY FITTINGS</u>			
<u>Sanitaryware - Please refer to the attached client sanitaryware specifications</u>			
55	Type 1 - WC - supply and install complete Vaal Hibiscus white vitreous china washdown suite comprising 90 degrees outlet open rim washdown pan (772654), matching 6/3 litre cistern with top dual flushing system (772656), including Cobra regulating valve (232-10) with 350mm flexi hose and jazz thermoset toilet seat with metal hinge (8531Z0)	No	67
56	Type 2 - WC - Supply and install complete Vaal Pearl Paraplegic white vitreous china semi close coupled suite with 90 degrees outlet pan (7300SC), matching 9 litre cistern with purpose made CP side-flush lever (left or right)(772656), including angle regulating valve (832/350F) with 350mm flexi hose and purpose made urea seat toilet seat and cover plate	No	11
Carried Forward			
Section No. 2 Bill No. 15 Plumbing and Drainage			

R

R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
57	Type 2 - WHB - supply and install complete Vaal Hibiscus 510 x 405mm white vitreous china rounded basin with one taphole, integrated overflow (7050), no chainstay hole, bolted to wall with two 10mm bolts (8448Z0), including 32mm Cobra cp basin waste (303), slotted without chain and stay configuration, white uPVC antivac bottle trap, Cobra Noka basin mixer tap with water saving aerator (NA-952 & P-WS/6), two 832/350F angle regulating valves and Cobra cp anti-theft plug (309-32)	No	55
58	Type 3- WHB(disabled) supply and install complete Vaal Hibiscus 510 x 405mm white vitreous china rounded basin with two tapholes	No	14
59	Type 1 - Urinal - supply and install complete Vaal Lavatera (705427) white vitreous china wall hung urinal 600 x 385 x 380mm, with concealed back inlet, supplied complete with 38mm cp domical grating (8787), including two hanger brackets (8127Z0). Flushing system: Cobra FJ6000 Junior Flushmaster, exposed type with ball-o-stop and wall flange, cp with FJT 5.4 urinal connection pipe and head. Trap, Cobra (345/50) cp with 75mm deep seal and adjustable telescopic pipe.	No	30
60	Hibiscus white vitreous china basin (code:113202) with one tap hole including integrated overflow and chainstay hole bolted to wall with two 10mm bolts	No	27
61	Hibiscus white vitreous china lavatory basin (code:113202) with pedestal code (code:2477) with one tap hole including integrated overflow and chainstay hole bolted to wall with two 10mm bolts	No	52
62	Vaal 234500 ceramic fireclay sink, size 435 x 335 x 180mm fixed on top of worktop and sealed with silicone	No	71
63	Hibiscus Elite vitreous china close coupled suite code VAA-772480 including Eco Jazz seat code 8512Z0 including all accesories	No	91
	<u>Concrete Wash Trough</u>		
64	500 x 600 x 258mm Concrete Wash trough fitted to wall including waste union	No	31
	Carried Forward		R
	Section No. 2 Bill No. 15 Plumbing and Drainage		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Franke stainless steel or Equally Approved</u>			
65	870 x 435mm wide Franke Quinline "Model CVN620" polished stainless steel single bowl drop on sink, fitted onto cupboard (elsewhere specified)	No	12
66	1200 x 535mm Franke Trendline Model Grade 304 18/10 polished stainless steel double end bowl drop on sink (Code: 312081), overall size 1200 x 535mm wide with two 343 x 410 x 140mm deep bowls, fitted onto cupboard (elsewhere specified) including 38mm waste fitting and PVC traps (traps elsewhere specified).	No	6
<u>TAPS, VALVES, ETC.</u>			
<u>Floor outlet</u>			
67	uPVC floor drain with 50mm horizontal outlet and 120 x 120mm stainless steel grid	No	6
<u>RAIN WATER TANK</u>			
<u>Rain Water Tank</u>			
68	5000 (Five Thousand) Litre Water Tank, Jojo or equally approved (SABS approved).	No	25
<u>RAINWATER DISPOSAL</u>			
<u>0.6mm Powder coated mild steel seamless square profile gutters and downpipes</u>			
69	100 x 100mm galvanised gutter	m	1 346
70	Extra over for angle	No	91
71	Extra over eaves gutter for outlet for 100mm diameter pipe	No	71
72	Extra over for closed end	No	122
73	100 x 75mm Galvanised steel rainwater downpipe	m	623
74	Extra over for shoe	No	41
<u>WASTE UNIONS</u>			
Carried Forward			R
Section No. 2 Bill No. 15 Plumbing and Drainage			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
		<u>Cobra Watertech" or equal approved</u>		
75	38mm "Cobra 316" unslotted waste and plug with chain	No	103	
		<u>"Vaal" or equal approved</u>		
76	Code "8794Z0" chromium plated waste and plug with chain	No	41	
77	Code "8790Z0" acid resistant waste and plug with chain	No	51	
		<u>TRAPS</u>		
		<u>"Marley" or equal approved</u>		
78	40 x 300mm Sink combination for double bowl with deepseal "P" trap	No	12	
		<u>"Cobra Watertech" or equal approved</u>		
79	Code "8790Z0" acid resistant waste and plug with chain	No	51	
		<u>TAPS, VALVES, ETC</u>		
		<u>"Cobra Watertech" or equal approved</u>		
80	Code COB-LO-214-15 chrome plated pillar tap fixed into brickwall	No	41	
81	Cobra Watertech 15mm MI x FI x 75mm long extension piece with sliding wall flange (Code: 059-15).	No	45	
82	"Cobra Ref. 232/350" Angle regulating valve	No	193	
83	Cobra Ref. 296 One hole 1mm mixer with swivel outlet.	No	19	
84	Cobra Watertech chrome plated 15mm outlet x 215mm long with 27mm offset urinal flush pipe (Code: FJT5.5).	No	132	
85	Cobra Watertech exposed urinal chrome plated Junior Flushmaster flushvalve (code: FJ6.000) with non-hold open feature, wall flange and 20mm "Ball-o-Stop" control inlet.	No	38	
86	Code COB-505-21B Elbow action tap	No	53	
		<u>GEYSERS, ETC</u>		
		Carried Forward		R
	Section No. 2			
	Bill No. 15			
	Plumbing and Drainage			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>"Kwikot" or other equally approved</u>			
87	250 Litres Kwikot Geyser as per Architects drawings including all accessories	No	19
<u>Sundries</u>			
88	22mm Brass gate valve	No	19
89	32mm Brass gate valve	No	19
90	35mm Cobra watertech 1050 strainer	No	19
91	PB1. 10RB Vacuum breaker	No	19
92	PA1. 1RB "kwikflo" 400kpa pressure reducing valve	No	19
93	Tray	No	19
94	22mm Overflow pipe 500mm girth twice bent	No	19
<u>FIRE APPLIANCES, ETC</u>			
<u>"Chubb" or other equally approved</u>			
95	4.5kg Dry chemical Fire extinguisher fixed to wall	No	19
96	9kg Dry chemical Fire extinguisher fixed to wall	No	26
97	30m long Hose reel including accessories (SABS approved) fixed to the wall	No	90
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 15			
Plumbing and Drainage			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 16</u>			
	<u>PAINTWORK</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PAINTWORK TO NEW WORK</u>			
	<u>ON FLOATED PLASTER & CONCRETE</u>			
	<u>One coat plaster primer and two coats PVA paint (Plascon Broken White VEL 17)</u>			
1	On internal plastered walls	m2	6 143	
	<u>One coat plaster primer and two coats PVA paint Type Plascon Bathrooms O.S.A Colour: Ray of Light (O7-A2-3)</u>			
2	On internal plastered walls	m2	156	
	<u>ON CEILINGS & PARTITIONS</u>			
	<u>Prepare surfaces and apply one coat plaster primer two coats PVA paint (Colour: Black)</u>			
3	On ceilings and bulkheads	m2	4 958	
	<u>ON FIBRE-CEMENT</u>			
	<u>Prepare surfaces by treating nails and joints with one coat zinc chromate and apply one coat alkaline base, one universal undercoat and two coats enamel paint all as per manufacturer's specifications and application instructions</u>			
4	On ceilings	m2	40	
	Carried Forward			
	Section No. 2			
	Bill No. 17			
	Paintwork			
			R	

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>ON WOOD</u>			
<u>Three coats superior quality clear eggshell varnish</u>			
5	Skirtings, rails, etc not exceeding 300mm girth	m	1 129
<u>Apply one coat primer for wood, one universal undercoat and two coats 'plascon' velvagio</u>			
6	On doors	m2	375
<u>ON METAL</u>			
<u>One coat NAMELCOTE* zinc chromate primer UC 53. One coat PLASCON GALVOGRIP* metal primer. Two coats VELVAGLO* poyutherane enamel</u>			
7	On doors (both sides measured over the full flat area)	m2	81
8	On door frames	m2	134
<u>One coat zink chromate primer, and two coats Plascon super enamel</u>			
9	On gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	39
Carried Forward to Summary of Section No. 2			R
Section No. 2			
Bill No. 17			
Paintwork			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO.17</u>			
	<u>FENCING</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>EARTHWORKS</u>			
	<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
1	Trenches	m3	333	
	<u>Extra over trench and hole excavations in earth other than bulk for excavation in:</u>			
2	Soft Rock	m3	30	
3	Hard Rock	m3	15	
	<u>Extra over all excavations for carting away</u>			
4	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	251	
	<u>Risk of collapse of excavations</u>			
5	Sides of bulk excavations not exceeding 1,5m deep	m2	960	
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 85% Mod AASHTO density</u>			
6	Backfilling to trenches, holes, etc	m3	81	
	Carried Forward			R
	Section No. 2			
	Bill No. 18			
	Fence			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
<u>Soil insecticide in accordance with SANS 5859</u>		
7	To bottoms and sides of trenches etc	m2 1 440
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>		
<u>25MPa/19mm reinforced concrete cast against excavated surfaces</u>		
8	Strip footings	m3 113
<u>Test Cubes</u>		
9	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No 15
<u>Mild steel reinforcement to structural concrete work</u>		
10	12mm Diameter bars	t 16,00
<u>FENCE</u>		
<u>Supply, deliver and install high-security "Clear VU" Fencing comprising galvanised powder-coated anti-climb mesh panels (approximately 76.2 x 12.7mm aperture, 3.0-4.0mm wire), mounted to galvanised powder-coated RHS steel posts with anti-tamper fixing, including mass concrete foundations (measured elsewhere), all accessories, cutting, fixing, alignment and finishing, complete in accordance with manufacturer's recommendations</u>		
11	Fence 2.4m high	m 818
12	Extra over for single sliding gate of size 6328 x 2400mm high	No 6
13	Extra over for double gate of size 2200 x 2400mm high with each gate leaf size 1100 x 2400mm high	No 2
Carried Forward to Summary of Section No. 2		
Section No. 2		
Bill No. 18		
Fence		

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

SECTION SUMMARY - BUILDING WORKS					
Bill No			Page No	Amount	
1	Alterations		19		
2	Earthworks		22		
3	Concrete Formwork and Reinforcement		25		
4	Masonry		27		
5	Waterproofing		28		
6	Roof Coverings		30		
7	Carpentry and Joinery		32		
8	Ceilings Partitions and Access Flooring		34		
9	Floor Coverings		35		
10	Ironmongery		41		
11	Structural Steel		42		
12	Metalwork		47		
13	Plastering		49		
14	Tiling		50		
15	Plumbing and Drainage		58		
16	Glazing		59		
17	Paintwork		61		
18	Fence		63		
Carried to Final Summary				R	
Section No. 2					

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL NO.1</u>			
	<u>EXTERNAL WORKS</u>			
	<u>COVERED WALKWAYS, ASSEMBLY POINT AND PAVING IN BETWEEN BUILDINGS</u>			
	<u>EARTHWORKS</u>			
	<u>SITE CLEARANCE ETC</u>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	714	
	<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
	<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
2	Trenches	m3	122	
	<u>SOFT AND HARD ROCK, ETC</u>			
	<u>Extra over trench and hole excavations in earth other than bulk for excavation in:</u>			
3	Soft Rock	m3	25	
4	Hard Rock	m3	18	
	<u>CARTING AWAY</u>			
	<u>Extra over all excavations for carting away</u>			
5	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	179	
	<u>RISK OF COLLAPSE ETC</u>			
	<u>Risk of collapse of excavations</u>			
6	Sides of trench and hole excavations not exceeding 1,5m deep	m2	329	
	Carried Forward			
	Section No. 3			
	Bill No. 1			
	EXTERNAL WORKS			

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>KEEPING EXCAVATIONS FROM WATER</u>			
<u>Keeping excavations free of water</u>			
7	Keeping excavations free of all water other than subterranean water	Item	
<u>G5 or approved material filling supplied by the contractor, compacted to 95% Mod AASHTO density</u>			
8	Under floors, steps, pavings, etc	m3	300
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 85% Mod AASHTO density</u>			
9	Backfilling to trenches, holes, etc	m3	1 204
<u>SOIL POISONING</u>			
<u>Soil insecticide in accordance with SANS 5859</u>			
10	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	714
11	To bottoms and sides of trenches etc	m2	329
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
<u>25MPa/19mm reinforced concrete cast against excavated surfaces</u>			
12	Strip footings	m3	350
<u>15MPa/19mm reinforced concrete cast against excavated surfaces</u>			
13	Surface beds	m3	252
<u>Test Cubes</u>			
14	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	21
<u>CONCRETE SUNDRIES</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
	<u>Finishing top surfaces of concrete smooth with a wood float</u>	
15	Surface beds, slabs, etc.	m2 2 524
	<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>	
	<u>Saw-cut joints</u>	
16	3 x 10mm Saw-cut joints in top of concrete with bevelled top corners in top of concrete	m 822
	<u>REINFORCEMENT</u>	
	<u>Mesh reinforcement</u>	
17	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2 2 524
	<u>Mild steel reinforcement to structural concrete work</u>	
18	12mm Diameter bars	t 21,00
	<u>MASONRY</u>	
	<u>FOUNDATIONS (PROVISIONAL)</u>	
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>	
19	One brick walls	m2 979
	<u>Roan Satin FBX, manufactured in accordance with 227:2007, bedded and jointed in Class II mortar and pointed with recessed vertical and flush horizontal joints.</u>	
20	Extra over brickwork for face brickwork	m2 979
21	Coping on top of one brick wall	m 2 328
	<u>BRICKWORK SUNDRIES</u>	
	<u>Brickwork reinforcement</u>	
22	150mm Wide reinforcement built in horizontally	m 11 501
	Carried Forward	
	Section No. 3	
	Bill No. 1	
	EXTERNAL WORKS	

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
	<u>60mm Thick 25MPa precast concrete interlocking block paving of 200 x 100mm grey paving blocks in accordance with SANS 1058, laid to falls on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor</u>	
23	Paving of 60mm thick blocks including edge blocks	m2 6 981
	<u>Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasion 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²</u>	
24	Under paving etc	m2 6 981
<u>WATERPROOFING</u>		
	<u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u>	
25	Under surface beds	m2 631
	<u>One layer of 375 micron "Consol Plastics Brikgrip DPC" or other equal and approved embossed damp proof course</u>	
26	In walls	m2 128
<u>ROOF COVERINGS ETC</u>		
<u>PROFILED METAL SHEETING AND ACCESSORIES</u>		
	<u>0.6mm Thick Galvanised roof sheeting with concealed fixings at 25 deg Pitch on 75x50mm purlins at a max 1600mm centres. On trusses at 1200mm max centres (maximum) on 38x114mm wall plate. All bolt holes are to be drilled</u>	
27	Roof covering with pitch not exceeding 25 degrees	m2 694
<u>STRUCTURAL STEELWORK</u>		
	<u>Welded columns in single lengths with flat base, mitred bearer and welded connection to beams (beams measured elsewhere), bolted to concrete</u>	
28	89 x 3mm circular hollow section columns	t 5,52
Carried Forward		
Section No. 3 Bill No. 1 EXTERNAL WORKS		

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
29	Extra on last for mitred corners	No	167
30	Base plates 150mm x 150mm x 6mm thick, holed four times and welded to columns (columns measured elsewhere)	No	167
<u>Welded beams in single lengths with mitred corners and welded connection to columns (columns measured elsewhere)</u>			
31	89 x 3mm circular hollow section beams cranked in the middle to give a 3 degree pitch	t	1,23
<u>BOLTS, FASTENERS, ETC</u>			
32	M12 chemical anchor bolts	No	666
<u>Purlins welded to steel</u>			
33	60 x 40 x 2.5mm thick rectangular hollow section mild steel purlins	t	7,69
<u>WATER TOWER</u>			
34	Allow for R800, 000 (Eight Hundred Thousand Rands) for Rehabilitation of Water Tower Piping, Pipes, etc	Item	800 000,00
<u>CONCRETE STORMWATER CHANNELS</u>			
<u>EARTHWORKS (PROVISIONAL)</u>			
<u>SITE CLEARANCE ETC</u>			
<u>Site clearance</u>			
35	Stripping average 100mm thick layer of top soil and depositing material in prescribed stock piles on site	m2	627
<u>COMPACTION</u>			
<u>Compaction of surfaces</u>			
36	Compaction of ground surfaces under concrete channels by wetting and compacting with vibratory roller	m2	627
<u>SOIL POISONING</u>			
<u>Soil insecticide</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
37	Soil insecticide in accordance with SANS 5859, under floors	m2	107
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
<u>15MPa/19mm concrete</u>			
38	15MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225 x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	924
39	20MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225mm x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	334
<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
40	25MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225mm x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	353
41	20MPa concrete ramp to falls on	m3	3
42	20MPa concrete surface bed	m3	2
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with a wood float</u>			
43	Finishing tops of concrete channel surface with wood float to falls	m2	662
44	6mm thick fibre cement permanent shuttering	m2	20
<u>REINFORCEMENT</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
	<u>Mesh reinforcement</u>		
45	Standard square fabric mesh Ref 245 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	20
	<u>MASONRY</u>		
	<u>SUPERSTRUCTURE</u>		
	<u>Brickwork of NFP clay bricks in class II mortar</u>		
46	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar for brick-on-edge 1 course high	m	66
	<u>DRINKING FOUNTAIN</u>		
	<u>EARTHWORKS (PROVISIONAL)</u>		
	<u>SITE CLEARANCE ETC</u>		
	<u>Site clearance</u>		
47	Stripping average 150mm thick layer of top soil and depositing material in prescribed stock piles on site	m2	15
	<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>		
	<u>Excavation in earth not exceeding 2m deep</u>		
48	Excavation in earth not exceeding 2m deep for holes size 300 x 300 x 300mm deep	No	13
	<u>COMPACTION</u>		
	<u>Compaction of surfaces</u>		
49	Compaction of ground surfaces under concrete channels by wetting and compacting with vibratory roller	m2	15
50	100mm thick (Class D) concrete to falls to grating over gully	m2	5
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
	Carried Forward		R
	Section No. 3 Bill No. 1 EXTERNAL WORKS		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>15MPa/19mm concrete</u>			
51	15MPa concrete footing of size 300 x 300 x 300mm deep	No	10
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with a wood float</u>			
52	Finishing tops of concrete surface with wood float to falls	m2	11
<u>REINFORCEMENT</u>			
<u>Mesh reinforcement</u>			
53	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	11
<u>PLUMBING & DRAINAGE (PROVISIONAL)</u>			
<u>uPVC pipes</u>			
54	300mm uPVC Gulley not exceeding 500mm deep, including 300 x 300mm steel light duty square dished grating and frame set in concrete	No	5
55	100 x 50 x 11mm mild steel hot dipped galvanised formed channel of overall 3500mm girth, mitred at two corners and welded together, including welding to two mildsteel hot dipped galvanised plates cast into concrete footing	No	5
56	20mm Galvanised steel water pipes with screwed and sockets joints	m	5
57	Extra over galvanised steel pipes for 90 degree bend	No	5
58	20mm Cast iron brass in-line strainer	No	5
59	20mm Cast iron brass fullway gate valve	No	5
60	20mm Hose bib-tap with lockshield and loose key with 20mm hose union	No	5
61	20mm 111-20CP pillar tap	No	15
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>WATER RETICULATION</u>			
<u>EARTHWORKS</u>			
<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
62	Excavation in earth not exceeding 2m deep for pipe trenches	m3	907
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 85% Mod AASHTO density</u>			
63	Backfilling to pipe trenches compacted to 95% Mod AASHTO density	m3	726
64	Selected granular filling in bedding under and filling around pipes	m3	1 451
<u>PN10 Marley Megatuff HDPe pipe system or similar with electro fusion couplings for every joint</u>			
65	75mm Pipes laid in trenches not exceeding 2m deep	m	629
<u>Extra over HDPe pipes for fittings</u>			
66	75mm Fittings	No	91
<u>Sundries</u>			
67	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc including extra excavation, formwork, etc	m3	1
68	Cast iron valve box or similar of SABS Type 3B, with 160mm diameter uPVC pipe and non-rising spindle of left-hand closing, capped top to SABS 664 including 20MPa 400 x 400 x 300mm deep pre-cast concrete block with 10MPa 400 x 400 x 200mm concrete base with ground filling properly compacted	No	2
<u>Testing</u>			
69	Testing water pipe system	Item	
<u>SEWER NETWORK</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
<u>EARTHWORKS</u>				
70	Backfilling to pipe trenches compacted to 95% Mod AASHTO density	m3	444	
71	Selected granular filling in bedding under and filling around pipes	m3	273	
<u>Heavy duty (Class 34) uPVC sewer and drain pipes</u>				
72	110mm Pipes laid in and including trenches not exceeding 1m deep	m	161	
73	110mm Pipes laid in and including trenches exceeding 1m deep and not exceeding 2m deep	m	138	
74	110mm Pipes laid in and including trenches exceeding 2m deep and not exceeding 3m deep	m	86	
75	110mm Pipes laid in and including trenches exceeding 3m deep and not exceeding 4m deep	m	49	
76	110mm Pipes laid in and including trenches exceeding 4m deep and not exceeding 5m deep	m	22	
77	160mm Pipes laid in and including trenches not exceeding 1m deep	m	12	
78	160mm Pipes laid in and including trenches exceeding 1m deep and not exceeding 2m deep	m	310	
79	160mm Pipes laid in and including trenches exceeding 2m deep and not exceeding 3m deep	m	92	
80	160mm Pipes laid in and including trenches exceeding 3m deep and not exceeding 4m deep	m	46	
81	160mm Pipes laid in trenches (trenches elsewhere) exceeding 4m deep and not exceeding 5m deep	m	137	
<u>Extra over uPVC for fittings</u>				
82	110mm Pipe fittings	No	63	
83	160mm Pipe fittings	No	58	
Carried Forward				R
Section No. 3 Bill No. 1 EXTERNAL WORKS				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>Construct sewer manhole complete from a single length HDPe (minimum 8kN/m2 ring stiffness) manhole pipe shaft of 1000mm diameter comprising excavation in all materials; preparation of formation; 25MPa/19mm cast in-situ concrete base slab; supply, installation and jointing of precast concrete manhole rings to required depth; junction of concrete ring beam to pipe; factory-manufactured HDPe channel and benching units complete with smooth finished surfaces, formed to suit incoming and outgoing pipe diameters and gradients; factory-fitted HDPe steps at 300mm vertical centres; cutting of pipe openings and making food with 10MPa/13mm concrete backfilling around manhole compacted to 93% Mod AASHTO density in 150mm layers using approved material; poly-sulphide seal or cement slurry bedding where required; adaptor slab; heavy-duty precast concrete manhole cover and frame (SABS 558/SANS 555) including concrete coverslab; finishing to paving or surrounding surface complete; all in accordance with drawings, specifications and Engineer's instructions</u>			
84	Manhole 0m to 1m deep	No	1	
85	Manhole 0m to 1.5m deep	No	5	
86	Manhole 0m to 2m deep	No	2	
87	Manhole 0m to 2.5m deep	No	3	
88	Manhole 0m to 3m deep	No	1	
89	Manhole 0m to 3.5m deep	No	1	
90	Manhole 0m to 4m deep	No	1	
	<u>Testing</u>			
91	Testing soil drainage system		Item	
	<u>SEWER TREATMENT PLANT</u>			
	<u>EARTHWORKS</u>			
	Carried Forward			R
	Section No. 3			
	Bill No. 1			
	EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Site clearance</u>			
92	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	135
93	Stripping average 150mm thick layer of top soil and depositing material in prescribed stock piles on site	m2	135
<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
94	Trenches	m3	4
<u>Extra over trench and hole excavations in earth other than bulk for excavation in:</u>			
95	Soft Rock	m3	1
96	Hard Rock	m3	1
<u>Extra over all excavations for carting away</u>			
97	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	4
<u>Risk of collapse of excavations</u>			
98	Sides of trench and hole excavations not exceeding 1,5m deep	m2	4
<u>Keeping excavations free of water</u>			
99	Keeping excavations free of all water other than subterranean water		Item
<u>G7 or approved material filling supplied by the contractor, compacted to 95% Mod AASHTO density dry density at optimum moisture density</u>			
100	Under floors, steps, pavings, etc	m3	17
<u>Soil insecticide in accordance with SANS 5859</u>			
101	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	23
102	To bottoms and sides of trenches etc	m2	4
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>		
<u>25MPa/19mm reinforced concrete cast against excavated surfaces</u>		
103	Slabs including beams and inverted beams	m3 28
<u>Finishing top surfaces of concrete smooth with a wood float</u>		
104	Surface beds, slabs, etc.	m2 113
<u>Test Cubes</u>		
105	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No 2
<u>Grooves, channels, mortices, sinkings, etc in concrete including sealant</u>		
106	20 x 20mm Grooves in top	m 35
<u>Rough formwork to sides</u>		
107	Edges, risers, ends and reveals not exceeding 300mm high or wide	m 22
<u>Mild steel reinforcement to structural concrete work</u>		
108	Various diameter bars	t 3,75
<u>High tensile steel dowel bars</u>		
109	16mm Diameter dowel bar 350mm long with one end embedded 175mm deep in side of concrete at expansion joint and other end greased with Bond breaker and wrapped in polythene sheeting, including hole through formwork	No 69
<u>ROOF COVERINGS</u>		
<u>PALRUF 0100 Industrial corrugated PVC sheeting fixed to steel purlins all in accordance with manufacturer's specifications</u>		
110	Roof covering with pitches not exceeding 25 degrees	m2 98
Carried Forward		
Section No. 3 Bill No. 1 EXTERNAL WORKS		

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
111	Extra roof covering for turbine ventilator opening of 500 x 500mm size	No	3	
112	Side cladding	m2	145	
	<u>STRUCTURAL STEELWORK</u>			
	<u>COLUMNS, BEAMS, ETC</u>			
	<u>Welded and bolted connection column and beam roof construction</u>			
113	305 x 165 x 54mm (54kg/m) I section columns	t	1,95	
114	203 x 133 x 25mm (25kg/m) I section beam	t	0,53	
	<u>STEEL PORTAL FRAMES</u>			
	<u>Welded portal frames with flat bearer, gusset and connection plates, bolts, angle cleats etc bolted to concrete or steel</u>			
115	Double pitched portal frames 15,5m wide x 2,292m high extreme of 305 x 165 x 46mm 46.1kg/m I-section rafters beam	t	5,15	
116	Extra over rafter beam for haunch cut beam section of 500 x 200mm high	No	12	
117	Extra over rafter beam for haunch cut beam section of 750 x 200mm high	No	12	
	<u>PURLINS, GIRTS, BRACING, ETC</u>			
	<u>Purlins and girts bolted to steel</u>			
118	100 x 75 x 20 x 2.5mm Cold framed lipped channel (5.79kg/m)	t	3,16	
	<u>Steel plates, welded on both sides</u>			
119	303 x 150mm x 10mm Thick plate with 4no holes of 18mm diameter each	No	6	
120	332 x 172 x 16mm Thick plate with 4no holes of 18mm diameter each	No	2	
121	538 x 167 x 10mm Thick plate with 12no of 22mm diameter each	No	2	
	Carried Forward			R
	Section No. 3			
	Bill No. 1			
	EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
122	597 x 178 x 10mm Thick plate with 4no holes of 22mm diameter each	No	3
<u>Bolts to columns, beams, etc</u>			
123	M16 Bolts (Grade 4.8)	No	30
124	M20 bolts(Grade 4.8)	No	30
<u>400 wide x 4mm thick APEX Exclusive Balledge strip curtains installed using stainless steel brackets (Colour: TBC), all in accordance with manufacturer's specifications</u>			
125	Size 4220 x 3000mm high	No	1
<u>ROADWORK, PARKING AREAS AND PAVING</u>			
<u>Site clearance</u>			
126	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	3 611
<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
<u>Excavation in earth not exceeding 2m deep</u>			
127	Over site between buildings, retaining walls, etc to reduce levels and dispose in prescribed stock piles on site	m3	1 914
<u>Extra over bulk excavation in earth for excavation in</u>			
128	Soft rock	m3	134
129	Hard rock	m3	96
<u>CARTING AWAY</u>			
<u>Extra over all excavations for carting away</u>			
130	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	1 914
<u>KEEPING EXCAVATIONS FROM WATER</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Keeping excavations free of water</u>			
131	Keeping excavations free of water other than subterranean water	Item	
<u>COMPACTION</u>			
<u>Earth filling supplied by the contractor under parking areas, roadways, etc</u>			
132	Filling of approved cohesion-less material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	72
133	Base course of imported C4 material in accordance with SABS 1200 ME, stabilised to attain UCS>1,0 MPa after seven days and compacted to 95% Mod AASHTO density	m3	452
134	Base course of imported G5 material in accordance with SABS 1200 ME, stabilised to attain UCS>1.0 Mpa after seven days and compacted to 95% Mod AASHTO density	m3	89
135	Sub-base course of imported G5 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	452
136	Sub-base course of imported G7 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	89
137	Upper selected filling of imported G7 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	408
138	Road bed course in accordance with SABS 1200 ME, compacted to 90% Mod AASHTO density	m3	950
<u>Compaction of surfaces</u>			
139	Compaction of ground surfaces under pavings etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	4 560
<u>SOIL POISONING</u>			
Carried Forward			R
Section No. 3 Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
	<u>Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²</u>	
140	Under paving etc	m2 4 560
<u>TESTS</u>		
<u>Additional tests required by the engineer</u>		
141	CBR test in accordance with method A8 of TMH1	No 1
<u>REINFORCEMENT CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
	<u>80mm Thick 25MPa precast concrete interlocking block paving of 200x100mm grey paving blocks in accordance with SANS 1058, laid to fall on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor</u>	
142	Paving to parking area etc to 1 degreee	m2 2 665
143	Paving to parking areas etc to 3 degree falls	m2 529
<u>Precast concrete kerbs finished smooth on exposed surfaces, including bedding, jointing and pointing</u>		
144	Fig 8C Blitz kerbs with unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc	m 782
<u>Paintwork</u>		
<u>Prepare and apply one coat white reflective road marking paint on precast concrete paving blocks, etc</u>		
145	100mm Wide line	m 207
146	100mm Wide dotted line	m 207
<u>SEWER TREATMENT PLANT EQUIPMENT</u>		
Carried Forward		
Section No. 3		
Bill No. 1		
EXTERNAL WORKS		

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>SECTION 3</u>			
	<u>BILL NO. 1</u>			
	<u>ELECTRICAL WORKS (PROVISIONAL)</u>			
	<u>GENERAL COSTS</u>			
1	Loading and off loading of material and equipment.	Item		
2	Technical submittals	Item		
3	Transport	Item		
4	Compliance With Health and Safety Regulations	Item		
5	Development of workshop drawings, according to the specification	Item		
6	CADDED "As Installed" drawings, marking up drawings, as specified	Item		
7	Testing ,Load bancing and commissioning of complete Works to engineer and client satisfaction.	Item		
8	End User Training	Item		
9	Inspection and handing over of fully operational electrical and electronic installation.	Item		
10	Compilation of detail operational manuals and maintenance Manuals(with all test results), according to engineer's specification(3 sets) and 1 memeory stick	Item		
11	Marking and labelLing of all cabling for all equipment installed	Item		
12	Comprehensive 12 months Maintenance after practical completion	Item		
13	Complete on-site secured electrical equipment storage facility, as specified	Item		
14	Submission certificate of compliances	Item		
	Carried Forward		R	
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
		<u>ELECTRICAL DISTRIBUTION BOARD</u>		
		<u>The specified Distribution Boards, including making off all wire connections and circuit breakers included (external wiring, conduit, armoured cable and terminations given elsewhere) as per the Distribution Board</u>		
		<u>CLASSROOM BLOCKS</u>		
15	Classroom Block 1DB	Item		
16	Classroom Block 2 DB	Item		
17	Classroom Block 3 DB	Item		
18	Classroom Block 4 DB	Item		
19	Classroom Block 5 DB	Item		
		<u>ABLUTION BLOCKS</u>		
20	Ablution Block 1 Sub DB	Item		
21	Ablution Block 2 Sub DB	Item		
22	Ablution Block 3 Sub DB	Item		
		<u>SINGLE BLOCKS</u>		
23	Admin Block DB	Item		
24	Computer Room DB	Item		
25	Computer Room Sub DB	Item		
26	Media Centre DB	Item		
27	Laboratory Block DB	Item		
28	ECD Block DB.	Item		
29	Nutrition Block DB	Item		
		Carried Forward		R
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>ELECTRICAL KIOSK BOARDS</u>			
<u>The specified Kiosk Boards, including making off all wire connections and circuit breakers included (external wiring, conduit, armoured cable and terminations given elsewhere) as per the Kiosk drawings and listed below.</u>			
30	Kiosk 01	Item	
31	Kiosk 02	Item	
32	Kiosk 03	Item	
33	Kiosk 04	Item	
34	Kiosk 05	Item	
35	Electrical main LV panel	Item	
<u>board as indicated or instructed by Engineer.</u>			
36	350A triple pole circuit breaker	No 1	Rate only
37	300A triple pole circuit breaker	No 1	Rate only
38	250A triple pole circuit breaker	No 1	Rate only
39	80A triple pole circuit breaker, 5kA	No 1	Rate only
40	60A Tripple pole circuit breaker, 5kA	No 1	Rate only
41	60A double pole circuit breaker, 5kA	No 1	Rate only
42	63A double pole earthleakage unit, 5kA	No 1	Rate only
43	50A double pole circuit breaker, 5kA	No 1	Rate only
44	40A double pole circuit breaker, 5kA	No 1	Rate only
45	30A double pole circuit breaker, 5kA	No 1	Rate only
46	30A single pole circuit breaker, 5kA	No 1	Rate only
47	20A Single pole circuit breaker, 5kA	No 1	Rate only
Carried Forward			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R	
48	20A Double pole circuit breaker, 5kA	No	1		Rate only
49	10A single pole circuit breaker, 5kA	No	1		Rate only
	<u>FEEDER CABLES</u>				
	<u>Supply, install and connect 660/1000 Volt multi-core PVC insulated copper, armoured cables: connection of conductors, cable lugs, captive glands shrouds, cable management labeling, and handing fully compliant and operational 660/1000V multi-core PC insulated, armoured feeder cables in accordance with SANS 10142-1 ; SANS 1507, SANS 10119: 2004, SANS 10313, SANS 62305-1-2-3-4 as revised, SANS10400, municipality electrical</u>				
	<u>CLASSROOM BLOCKS X5</u>				
50	Complete 10mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	250		
51	Complete 6mm ² x 3 core electrical Cable ends	No	15		
52	Complete 4mm ² Bare cu Earthwire run in parallel with above cables including the	m	240		
	<u>ABLUTION BLOCKS X3</u>				
53	Complete 4mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	253		
54	Complete 4mm ² x 2 core electrical Cable ends	No	15		
55	Complete 4mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	255		
	<u>ADMIN BLOCK</u>				
56	Complete 25mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	68		
57	Complete 25mm ² x 4 core electrical Cable ends	No	6		
	Carried Forward			R	
	Section No. 4				
	Bill No. 1				
	Electrical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
58	parallel with above cables including the terminations either end of cable, as specified.	m	65	
	<u>COMPUTER BLOCK</u>			
59	Complete 16mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	45	
60	Complete 16mm ² x 4 core electrical Cable ends	No	3	
61	Complete 10mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	45	
	<u>MEDIA CENTRE</u>			
62	Complete 16mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	110	
63	Complete 16mm ² x 4 core electrical Cable ends	No	3	
64	parallel with above cables including the terminations either end of cable run, as specified	m	110	
	<u>LABORATORY BLOCK</u>			
65	Complete 16mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	115	
66	Complete 16mm ² x 4 core electrical Cable ends	No	7	
67	Complete 10mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	115	
	<u>NUTRITION BLOCK</u>			
68	Complete 10mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	60	
69	Complete 10mm ² x 4 core electrical Cable ends	No	3	
	Carried Forward			R
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
70	Complete 6mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	60	
	<u>ECD BLOCK</u>			
71	Complete 16mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	78	
72	Complete 16mm ² x 3 core electrical Cable ends	No	3	
73	Complete 10mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	78	
	<u>CABLES</u>			
74	Complete 185mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	525	
75	Complete 185mm ² x 4 core electrical Cable ends	No	6	
76	Complete 150mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	525	
77	Complete 150mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	145	
78	Complete 150mm ² x 4 core electrical Cable ends	No	6	
79	Complete 95mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	145	
80	Complete 120mm ² x 4 core electrical cable ducts,trenches or on xable tray,as specified	m	510	
81	Complete 120mm ² x 4 core electrical Cable ends	No	85	
82	Complete 95mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable, as specified.	m	92	
83	Complete 25mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	64	
	Carried Forward			R
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
84	Complete 16mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	110	
85	Complete 6mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	100	
86	Complete 6mm ² x 2 core cable - in ducts, trenches or on cable tray, as specified	m	88	
87	Complete 4mm ² x 2 core cable - in ducts, trenches or on cable tray, as specified	m	100	
88	Complete 4mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	85	
89	Complete 2.5mm ² x 2 core cable - in ducts, trenches or on cable tray, as specified	m	375	
90	Complete 2.5mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	25	
91	Complete 25mm ² x 3 core electrical cable ends	No	6	
92	Complete 16mm ² x 3 core electrical cable ends	No	10	
93	Complete 6mm ² x 3 core electrical cable ends	No	7	
94	Complete 6mm ² x 2 core electrical cable ends	No	7	
95	ends	No	2	
96	Complete 4mm ² x 2core electrical Cable ends	No	7	
97	Complete 2.5mm ² x 2 core electrical Cable ends	No	9	
98	Complete 2,5mm ² x 3core electrical cable ends	No	4	
99	Complete 16mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	85	
100	Complete 10mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	91	
	Carried Forward			R
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
101	Complete 4mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	171	
102	Complete 2.5mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	65	
103	Complete 1.5mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable run, as specified	m	75	
	<u>WIRING CHANNEL INSTALLATION</u>			
	<u>Galvanized Wiring Channel as specified , including hangers, threaded rods, locknuts and metal covers.</u>			
104	Complete P8000 galvanized Wiring Channel with metal covers, as specified	m	350	
	<u>LUMINAIRES</u>			
	<u>Supply, install and connect luminaires complete with lamps, fixings, brass screws, washers, etc. (all light fittings samples shall be approved by the electrical engineer prior to placing orders).</u>			
	<u>CLASSROOM BLOCKS x5</u>			
105	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No	12	
106	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No	200	
107	Type B2: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp with wire guard, control gear, similar or equal and approved.	No	8	
108	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No	60	
	Carried Forward			R
	Section No. 4			
	Bill No. 1			
	Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>ABLUTION BLOCKS x3</u>			
109	Type B2: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp with wire guard, control gear, similar or equal and approved.	No 60	
110	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No 15	
111	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No 6	
112	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No 2	
<u>ADMIN BLOCK</u>			
113	Type B2: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp with wire guard, control gear, similar or equal and approved.	No 4	
114	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved to Beka Series 30 Black Trim.	No 8	
115	Type B6: Complete red round bulkhead for safe , control gear, similar or equal and approved.	No 2	
116	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED lamps.	No 4	
117	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No 10	
118	2x28W Double open channel luminaire with LED energy saving lamps and prismatic diffuser	No 7	
119	Type D1: Complete 14 W LED 190 Diameter down lighter with glass	No 16	
120	TYPE E1:Complete wall mounted LED exit luminaire complete with LED lamps,control gear,similar and equal and approved:	No 9	
Carried Forward			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>COMPUTER BLOCK</u>			
121	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No 3	
122	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No 26	
123	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No 9	
<u>MEDIA CENTRE BLOCK</u>			
124	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No 3	
125	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No 15	
126	Type D1: Complete 14 W LED 190 Diameter down lighter with glass	No 3	
127	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No 9	
<u>LABORATORY BLOCK</u>			
128	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No 20	
129	Type F2-1: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps flamen retardant poly carbonate diffuser.	No 4	
130	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No 9	
<u>NUTRITION BLOCK</u>			
131	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No 4	
Carried Forward			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
132	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No	16	
133	Type F2-1: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps flamen retardant poly carbonate diffuser.	No	3	
134	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No	7	
<u>ECD BLOCK</u>				
135	Type F1: Complete 1200mm 1 lamp 1x28W open channel luminaire with LED energy saving lamps.	No	4	
136	Type F2: Complete 1200mm 2 lamp 2x28W Double open channel luminaire with LED energy saving lamps.	No	16	
137	Type B2: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp with wire guard, control gear, similar or equal and approved.	No	13	
138	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No	9	
139	complete heavy duty 600x600mm manholes complete with steel covers	No	18	
<u>TRENCHING</u>				
<u>Supply and installation of cable sleeves as specified,in trenches or cast in concrete.excluding trenching or backfilling</u>				
140	Complete 600mm deep x 450mm wide, soft excavation	m	2 524	
141	Complete 600mm deep x 450mm wide, intermediate excavation	m	1 500	
142	Complete 600mm deep x 450mm wide, Careful excavation	m	1 500	
Carried Forward				R
Section No. 4 Bill No. 1 Electrical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
	CABLE SLEEVES		
	<u>specified, in trenches or cast in concrete, excluding trenching or backfilling.</u>		
143	Complete 110mm Ø Cable Sleeve	m	2 000
144	Complete 50mm Ø Cable Sleeve	m	2 000
	CONDUCTORS		
	<u>Supply and install 600/1000Volt PVC insulated stranded copper conductors drawn into conduits,cable trays, trunking</u>		
145	4mm² PVC Twin & Earth cable, including terminations	m	9 500
146	2.5mm² PVC Twin & Earth cable, including terminations	m	13 380
	CONDUIT		
	<u>Cutting,threading, bending, reaming, short lengths,1-/2-/3-4-way boxes, bushes, Installed on surface in ceiling space:</u>		
147	20mm PVC	m	4 700
148	25mm PVC	m	4 400
	<u>Chased into brickwork:</u>		
149	20mm PVC	m	2 200
150	25mm PVC	m	2 000
151	32mm PVC	m	1 200
	Carried Forward		R
	Section No. 4 Bill No. 1 Electrical		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			
<u>Terminations onto conduit boxes or DB's</u>			
152	20mm PVC	No	1 200
153	25mm PVC	No	850
<u>Supply and installation of 60mm Dia round 1-4 way ceiling boxes including</u>			
154	20mm PVC	No	400
155	25mm PVC	No	350
156	galvanised draw wires drawn into conduit/sleeves:	m	6 000
<u>Supply and installation of galvanised pressed boxes flush in wall, including bushes, locknuts and box extensions where required:</u>			
157	Complete 100x100x50mm outlet box complete with cover lid, as specified	No	250
<u>LIGHT SWITCHES</u>			
<u>Supply, fitting and electrical connection of a flush or surface mounted 16A switch in 100 x 50 excluding box (for flush type) and conduit connections, but including cover plates.</u>			
158	Complete 16A 1-lever / 1-way on 100x50x50mm, as specified	No	115
159	Complete 16A 1-lever / 2-way on 100x50x50mm, as specified	No	62
160	Complete 16A 2-lever / 1-way on 100x50x50mm, as specified	No	20
161	Complete Motion ensor light switch	No	35
162	Complete Photo Cell Switch	No	20
<u>POWER SOCKET OUTLETS</u>			
Carried Forward			
Section No. 4 Bill No. 1 Electrical			

R

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>flush or surface mounted switched or un-switched socket in either 100 x 100, x 50, round box or wiring channel, excluding box</u>			
163	Complete 16A single switched socket on 100x100x50mm outlet	No 20	
164	Complete 16A double switched socket on 100x100x50mm outlet	No 86	
165	Complete Multi power box in Staff Room	No 5	
166	Computer room with complete normal socket,dedicated socket and data point.	No 123	
167	Complete 5A un-switched socket on 60mm Diameter Round outlet	No 250	
<u>ISOLATORS</u>			
<u>Supply and install isolator in wall box complete with cover plate.</u>			
168	Complete 30A 3-pole surfaced mount Isolators for AC units , as specified	No 5	
169	Complete 30A 2-pole surfaced mount Isolators for AC units , as specified	No 4	
170	Complete 10A 1-pole surfaced mount Isolators for AC units , as specified	No 28	
171	Complete 20A 2-pole surfaced mount Isolators for AC units , as specified	No 35	
172	Complete 20A 2-pole surfaced mount Water tight external Isolators for AC units , as specified	No 26	
173	Complete 10A 3-pole surfaced mount Isolators for AC units , as specified	No 6	
174	Complete 20A 3-pole surfaced mount Isolators for AC units , as specified	No 4	
175	Complete 80A 3-pole surfaced mount Isolators for AC unit , as specified	No 3	
Carried Forward			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
176	Complete 60A 3-pole surfaced mount Isolators for AC unit , as specified	No	2	
177	Complete 50A 2-pole surfaced mount Isolators for AC unit , as specified	No	3	
<u>POWER SKIRTING INSTALLATION</u>				
<u>Supply and install power skirting including cutting, ends, covers, elbows, T's, short lenghts, screws ect</u>				
178	2-Compartment as specified.:	m	150	
179	complete white16A single socket outlet	No	36	
180	Data outlet on powerskirting	No	16	
181	dedicated red 16A single socket outlet	No	36	
182	outlet for fax and printer on powerskirting	No	16	
183	complete white16A two point pin socket outl	No	30	
184	Supply and install telephone outlets on power skirting with cradles and telephone sockets.	No	16	
185	Supply and install a flush mounted telephone board complete with frame,door,wallbox,fixings including termination of all conduits 450mmx450mmx150mm deep	No	3	
186	Supply and install a 5Kva fully online UPS complete with by-pass switch and 30min back up time as specified	No	4	
<u>LIGHTNING PROTECTION INSTALLATION</u>				
<u>protection installation, including aluminium and copper conductors, test joints, PVC conduit, earth electrodes for the following building but not limited to: -</u>				
187	Whole Buildings, as specified	No	1	
Carried Forward				
Section No. 4 Bill No. 1 Electrical				R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>EARTHING AND BONDING</u>			
188	latest SANS 10142 , as revised Code of Practice, as revised for The Wiring of Premises as amended and as specified. Bonding of all hot, cold and waste pipes complete with 12,5mm x 1mm thick solid or perforated copper tape including	No 1	
<u>TESTING AND COMMISSIONING</u>			
189	Inspections, testing and handing over of the complete installation in the presence of the complete installation in the presence of the Engineer and certify the results on the Certificate of compliance by an accredited person.:	No 1	
<u>Complete Supply and Installation of the following 2-way Intercom system with all control equipment including all connectors, professional, labeling , terminal screws: Head End Equipment</u>			
190	Supply ,install,and connect a control unit for the intercom system complete with cabinets,remote microphone,Player/recorder,Audio input system,etc as specified	No 1	
<u>Supply,install and connect units as specified below:</u>			
191	Internal Wall mounted intercom unit	No 60	
192	External Wall mounted intercom unit	No 10	
193	Complete cabling for whole system	m 4 500	
194	3 sets of As built drawings and Operating manuals and complete training of staff	No 1	
195	Test ,commissioning, labeling, programming of complete system to deliver a	No 1	
Carried Forward			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>Supply & Install the following equipment including all connectors, terminal screws in the following blocks Admin, Computer, Media, Nutrition Block and Cafeteria block.</u>			
196	Complete keypad access control unit, as specified	No	10	
197	Complete Intrusion Alarm panel with batter backup , as specified	No	9	
198	Complete cabling, testing and labeling thereof, as specified	m	3 500	
199	Complete magnetic door contact, as specified	No	13	
200	Complete magnetic Window contact, as specified	No	117	
201	Complete passive infra red motion detector linked to the burglar alarm panel as specified	No	52	
202	Complete 25W sounders, as specified	No	9	
203	Complete 2 pair multi core cabling, as specified	m	2 500	
204	Testing and commissioning of complete system to deliver a fully operation system to client and engineer's requirement	No	1	
205	3 sets of As built drawings and Operating manuals and complete training of staff	No	1	
206	The complete installation must comply with the specification. Supply and Install the following items: Installation, including loading and off loading of complete 350kVA Standby diesel generator with automatic mains failure and motorized change over isolator, over current protection breaker and GSM modem for SMS alert.	No	1	
207	Complete Weather & sound proof canopy	No	1	
208	Electric fuel filling tank	No	1	
209	Delivery to site with full tank diesel	No	1	
210	Complete casting of new electrical plinth	No	1	
	Carried Forward			R
	Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
211	1 year Generator comprehensive preventative maintenance during guarantee period.	No	1
212	Complete 1 year Generator service.	No	1
213	Complete ear protection muffs and fire extinguisher.	No	1
214	Submission of electrical certificate of compliance.	No	1
215	Complete 500Liter storage tank with complete mounting structure	No	1
216	Palisade fence around the generator	No	1
217	Car port over the generator	No	1
218	3 sets of As built drawings and Operating manuals and complete training of staff	No	1
<u>BACK UP POWER</u>			
219	Allow an amount of R2, 000, 000 (Two Million Rands) for Back Up Power (Solar Back Up Power)	Item	2 000 000,00
Carried to Final Summary			R
Section No. 4 Bill No. 1 Electrical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>BILL 2</u>			
	<u>MECHANICAL WORKS</u>			
	<u>HVAC</u>			
1	Technical Submissions	Item		
2	Workshop Drawings	Item		
3	Scaffolding	Item		
4	Transport	Item		
5	Rigging and Crainage	Item		
6	Compliance With Health and Safety Regulations	Item		
7	Attendance and contract management	Item		
8	Site Establishment	Item		
	<u>Project Engineering Management and Quality Control</u>			
9	Testing, balancing, commissioning and handover of air conditioning units and fans including compilation of submitted to the Engineer for approval.	Item		
10	Operation and Maintenance Instruction Manuals	Sets	4,0	
11	User Training	Item		
12	Sets of "as built' drawings hard and soft copies(3 sets)	No	3	
13	12 Months free maintenance	Item		
14	Any other item neccesary that might have been omitted (allow 5%)	Item		
15	P's and G's	Item		
	<u>ADMIN BLOCK</u>			
	<u>VENTILATION</u>			
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>VRV Heat Recovery Inverter Type Midwall VRV Split Unit,AC1, with 2,2kW Cooling</u>			
16	Capacity and Heating Capacity 2,5kW complete installation	No	3
17	Midwall VRV Split Unit,AC2, with 1,5kW Cooling Capacity and Heating Capacity 1,7kW complete installation VRV Ceiling Cassette Unit Four(4)-Way,AC3, airflow at 2,64kW Cooling Capacity and 3,37kW Heating Capacity.	No	3
18	VRV Ceiling Cassette Unit Four(4)-Way,AC3, airflow at 2,64kW Cooling Capacity and 3,37kW Heating Capacity.	No	1
19	VRV Ceiling Cassette Unit Four(4)-Way,AC4, airflow at 5kW Cooling Capacity and 5,5kW Heating Capacity.	No	1
20	Ceiling Concealed Hideaway ,AC6, with a Cooling Capacity at 15,83kW	No	1
21	Ceiling Concealed Hideaway ,AC6, with a Cooling Capacity at 15,83kW	No	1
<u>Cassette Panels</u>			
22	2k - 10k Cassette panel	No	3
<u>Heat Recovery Boxes</u>			
23	2 Port Box	No	15
24	4 Port Box	No	1
<u>Air Conditioning Outdoor Units</u>			
<u>VRV Heat Recovery Interter Type.</u>			
25	Total Capacity: 45.00kW cooling & 50.0kW heating , Heat Pump interter type Outdoor Unit Complete with all accessories including unit fixings (Samsung or Equal approved).	No	1
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
	<u>Refrigerant Pipes</u>		
26	Diameter 9mm copper pipe	m	25
27	Diameter 13mm copper pipe	m	18
28	Diameter 15mm copper	m	40
29	Diameter 19mm copper pipe	m	15
30	Diameter 22mm copper pipe	m	10
31	Diameter 25mm copper pipe	m	60
32	Diameter 28mm copper pipe	m	60
33	Header for connection of indoor units		Item
34	Y branch pipe for connection of outdoor units	No	40
35	Y branch pipe for connection of indoor units	No	15
	<u>Pipe Insulation</u>		
36	Diameter 9mm copper pipe	m	25
37	Diameter 13mm copper pipe	m	18
38	Diameter 15mm copper	m	40
39	Diameter 19mm copper pipe	m	15
40	Diameter 22mm copper pipe	m	10
41	Diameter 25mm copper pipe	m	60
42	Diameter 28mm copper pipe	m	60
43	32mm Condensate pipe	m	6
44	50mm Condensate pipe	m	6
	<u>VENTILATION</u>		
	Carried Forward		R
	Section No. 5 Bill No. 1 Mechanical		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
	FRESH AIR SUPPLY IN DUCT FANS(WOODS or 'SIMILAR APPROVED)		
45	Wall mounted extraction fan,WEF01, with a volume flow rate 'of 0.095 m³/s at a pressue of 100 Pa .	No	1
46	Wall mounted extraction fan,WEF02, with a volume flow rate 'of 0.075 m³/s at a pressue of 100 Pa .	No	1
47	Wall mounted extraction fan,WEF03, with a volume flow rate 'of 0.088 m³/s at a pressue of 100 Pa .	No	1
48	Wall mounted extraction fan,WEF04, with a volume flow rate 'of 0.075 m³/s at a pressue of 100 Pa .	No	1
49	In-Line extraction fan,EAF01, with a volume flow rate of 0,256 m³/s at a pressue of 150 Pa .	No	1
50	Fresh Air Fan,FAF01, with a volume flow rate 'of 0.23 m³/s at a pressue of 150 Pa c/w two(2) x sound attenuators.	No	3
51	Fresh Air Fan,FAF02, with a volume flow rate 'of 0.68 m³/s at a pressue of 250 Pa c/w two(2) x sound attenuators.	No	3
	FAN CONTROLS		
52	Fresh Air Supply fan timers for the running period of: 06:00 - 10:00 hrs 12:30 - 14:30 hrs 16:00 - 18:00 hrs	No	6
	VENTILATION DUCTS(FRESH AIR SUPPLY)		
	<u>Installation of Ducts shall include all fixing to complete the installation.</u>		
	<u>Fresh Air Ducts, Fittings and Accessories</u>		
53	Category 1 Ducting	m2	245
54	Category 1 Duct Fittings	No	210
	AIR TERMINALS		
	Carried Forward		R
	Section No. 5 Bill No. 1 Mechanical		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
<u>Install and connect with all necessary fittings and accessories</u>				
55	Supply air grill ,SAG01,with neck diameter 150mm	No	4	
56	Supply air grill ,SAG02,with neck diameter 100mm	No	2	
57	Supply air grill ,SAG02,with neck diameter 350mm	No	4	
58	Disc valve DV01, with a neck diameter of 150mm	No	8	
59	200x200 Door Grill,DG1.	No	4	
60	250x200 Door Grill,DG2. Flexible Ducts 150mm Dia.	No	1	
61	Flexible Ducts 150mm Dia.	m	78	
62	Flexible Ducts 200mm Dia.	m	30	
63	Flexible Ducts 250mm Dia.	m	12	
<u>Electrical Installations & connections</u>				
64	Cabling, power supply and all electrical work related to HVAC installation on this project		Item	
<u>VENTILATION</u>				
<u>Air Conditioning Indoor Units</u>				
<u>Inverter Type Split Units</u>				
65	Hideaway Unit,AC1, with 22kW Cooling Capacity.	No	1	
66	Hideaway Unit,AC2, with 10kW Cooling Capacity.	No	1	
67	Mid Wall Inverter Split unit, with 2.8kW Cooling Capacity complete installation with outdoor unit	No	2	
68	Wall Mounted Exctraction fan,EF01, with a volume flow rate 'of 0.20 m³/s at a pressue of 150 Pa	No	1	
69	Wall Mounted Supply fan,WSF01, with a volume flow rate 'of 0.20 m³/s at a pressue of 150 Pa .	No	1	
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
<u>Refrigerant Insulation</u>				
70	Diameter 6.35mm copper pipe	m	20	
71	Diameter 9mm copper pipe	m	20	
72	Diameter 12,7mm copper	m	20	
73	Diameter 15.88mm copper pipe	m	20	
74	Diameter 22mm copper pipe	m	20	
<u>Pipe Installation</u>				
75	Diameter 6,35mm copper pipe	m	20	
76	Diameter 9mm copper pipe	m	20	
77	Diameter 12,7mm copper	m	20	
78	Diameter 15.88mm copper pipe	m	20	
79	Diameter 22mm copper pipe	m	20	
80	Heat Recovery Boxes 2 Port Box	No	15	
81	4 Port Box	No	2	
<u>Air Conditioning Outdoor Units</u>				
<u>VRV Heat Recovery Interter Type.</u>				
82	Total Capacity: 22kW cooling & 69,30kW heating , Heat Pump interter type Outdoor Unit Complete with all accessories including unit fixings (Samsung or Equal approved).	No	1	
83	Total Capacity: 22,4kW cooling & 25,2kW heating , Heat Pump interter type Outdoor Unit Complete with all accessories including unit fixings (Samsung or Equal approved).	No	1	
<u>VENTILATION DUCTS</u>				
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Installation of Ducts shall include all fittings , accessories & connections to complete the installation.</u> <u>Supply Air Ducts, Fittings and Accessories</u>			
84	Category 1 Ducting	m2	140
85	Category 1 Duct Fittings	No	60
<u>Toilet Extraction Ducts, Fittings and Accessories</u>			
86	Category 1 Ducting	m2	10
87	Category 1 Duct Fittings	No	2
<u>AIR TERMINALS</u>			
<u>Install and connect with all necessary fittings and accessories</u>			
88	Supply Disc Valve with neck diameter 300mm	No	12
89	650x450 Weather Louvres c/w all fittings and accessories fully installed & functioning	No	3
90	400x300 Extract Air Door Grilles installed and fully functional	No	2
91	1200x600 Return Air Grilles c/w fittings and accessories	No	2
92	Flexible Ducts 300mm Dia.	m	15
<u>Electrical Installations & connections</u>			
93	Cabling, power supply and all electrical work related to HVAC installation on this project	Item	
<u>VENTILATION</u>			
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>FRESH AIR SUPPLY INDUCT FANS(WOODS or 'SIMI LAR APPROVED)</u>			
94	Extraction fan,EF01, with a volume flow rate 'of 0.20 m³/s at a pressue of 150 Pa c/w two(2) x sound attenuators.	No 2	
95	Wall mounted Extraction fan,WEF01, with a volume flow rate 'of 0.085 m³/s at a pressue of 100 Pa.	No 2	
<u>FAN CONTROLS</u>			
96	Extract Air duct-in-line fan controls	No 2	
<u>Extraction Air Ducts, Fittings and Accessories</u>			
97	Category 1 Ducting	m2 40	
98	Category 1 Duct Fittings	No 25	
<u>AIR TERMINALS</u>			
<u>Install and connect with all necessary fittings and accessories Extract Air Grill,EAG01, valves with neck</u>			
99	diameter 150mm	No 8	
100	300x400 Weather louve,WL01.	No 2	
101	400X300 Door Grilles	No 2	
102	300X300 Door Grilles	No 2	
103	Flexible Ducts 150mm Dia.	m 15	
<u>Electrical Installation & connections</u>			
104	Cabling, power supply and all electrical work related to HVAC installation on this project	Item	
<u>ÁBLUTIONS BUILDING</u>			
<u>VENTILATION</u>			
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		
<u>FRESH AIR SUPPLY IN-DUCT FANS (WOODS or 'SIMILAR APPROVED</u>		
105	Diameter 355mm exctraction fan,EAF1, with a volume flow rate 'of 0.7 m³/s at a pressue of 150 Pa c/w two(2) x sound attenuators.	No 1
<u>FAN CONTROL</u>		
106	Extract Air duct-in-line fan controls	No 1
107	Extraction Air Ducts, Fittings and Accessories Category 1 Ducting	m2 100
108	Category 1 Duct Fittings	No 63
<u>AIR TERMINALS</u>		
<u>Install and connect with all necessary fittings and accessories Extract Air,DV, disc valves with neck</u>		
109	diameter 200mm	No 14
110	450X350 Weather Resistant Louvre,WL1. 300X300 Door Grilles,DG1.	No 1
111	300X300 Door Grilles,DG1.	No 1
112	200X150 Door Grilles, DG2.	No 1
113	350x300 Door Grilles, DG3.	No 1
114	Flexible Ducts 200m Dia.	m2 14
<u>Electrical Installations & connections</u>		
115	Cabling, power supply and all electrical work related to HVAC installation on this project	Item
<u>NUTRITION BLOCK</u>		
<u>Installation of outdoor unit, mid wall mount/ceiling mounted cassette and hide-away type c/w interconnecting piping, valves, wiring, ga,drains,wired remote controllers, mounting brackets and Electrical</u>		
Carried Forward		
Section No. 5 Bill No. 1 Mechanical		

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Air Conditioning Indoor Units</u>			
116	Wall mounted unit 3,5 kW Cooling Capacity Model: Samsung model AC35TNXDKG/EU or Equal	No	1
117	Ducted Hideaway unit with 25kW Cooling capacity Model: Samsung model AC250KNHPKH/EU or equal	No	1
<u>VENTILATION DUCTS FANS</u>			
<u>Installation of Ducts and fans shall include all fittings , accessories & connections to complete the installation.</u>			
118	Diameter 400 -KD400M3 Mixed flow fan 500L/s@230Pa,456W,3ph,400V c/w Inside and Outside Louvres,the Outside louvre To Be Weather Proof And Have Birds Barrier, Electrical box, Timer Controlled	No	1
119	KV150M Wall Mounted Extract Fan With Duty of 80L/s @50Pa,59W,1ph c/w Inside and Outside Louvres,the Outside louvre To Be Weather Proof And Have Birds Barrier, Electrical box, Timer Controlled	No	4
120	KV100M Wall Mounted Extract Fan With Duty of 50L/s @50Pa,59W,1ph c/w Inside and Outside Louvres,the Outside louvre To Be Weather Proof And Have Birds Barrier, Electrical box, Timer Controlled	No	2
121	Grilles Weather Louvre 500mm x 450mm	No	2
122	Door Grille 200mm x 250mm	No	3
<u>Diffusers</u>			
123	SAD01 Supply Air Diffuser 150mm	No	8
<u>Disk Valves</u>			
124	DV01 150mm	No	2
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			
<u>DUCTWORK</u>			
<u>Rectangular galvanized low pressure ducting supported from structural steel via hangers and 8mm threaded bar.Note Rate to include support mechanisms</u>			
125	Category 1 ducting	m2	70
126	Category 3 ducting	m2	40
127	Extra over for low pressure ducting -	No	20
<u>Category 1 - Stop ends, Radius bends, Square bends, 45° bends, 15° bends, 90° bends, transformations, tees</u>			
128	Category 2 - Stop ends, Radius bends, Square bends, 45° bends, 15° bends, 90° bends, transformations, tees	No	9
<u>Flexible Insulated Duct</u>			
<u>Insulated Flexible ductwork not exceeding 1.5 m girth, externallyinsulated with 25mm foil faced fibreglass, including jubilee duct clamps and vapour barrier tape</u>			
129	150 mm ø	m	7
130	300 mm ø	m	20
131	450 mm ø	m	7
<u>Electrical Installations & connections</u>			
132	Cabling, power supply and all electrical work related to HVAC installation on this project		Item
133	Provisional SUM for Kitchen Equipment for food preparation for 600 Pupils		Item
<u>NEW COMPUTER ROOM</u>			
<u>VENTILATION</u>			
Carried Forward			
Section No. 5			
Bill No. 1			
Mechanical			

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Air Conditioning Indoor Units</u>			
134	Hideaway unit rated at 23.5kW Cooling Capacity, AC1.	No 2	
135	Total Capacity: 45.00kW cooling & 50.0kW heating , Heat Pump interter type Outdoor Unit,AC2,Complete with all accessories including unit fixings (Samsung or Equal approved).	No 2	
136	Wall mounted extraction fan,WEF1, with neck diameter of 100mm with a flow rate rated at '0,07 m3/s	No 2	
<u>Refrigerant Pipes</u>			
137	Diameter 6.35mm copper pipe	m 33	
138	Diameter 9mm copper pipe	m 33	
139	Diameter 12.7mm copper	m 20	
140	Diameter 15.88mm copper pipe	m 20	
141	Diameter 22mm copper pipe	m 23	
<u>Pipe Insulation</u>			
142	Diameter 6.35mm copper pipe	m 33	
143	Diameter 9mm copper pipe	m 33	
144	Diameter 12.7mm copper	m 20	
145	Diameter 15.88mm copper pipe	m 20	
146	Diameter 22mm copper pipe	m 15	
<u>VENTILATION DUCTS</u>			
<u>Installation of Ducts shall include all fittings , access ories & connections to complete the installation.</u>			
147	Supply Air Ducts, Fittings and Accessories	m2 120	
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
148	Category 1 Ducting	No	50	
149	Category 1 Duct Fittings Toilet Extraction Ducts, Fittings and Accessories Category 1 Ducting	m2	20	
150	Category 1 Duct Fittings	No	153	
	<u>AIR TERMINALS</u>			
	<u>Install and connect with all necessary fittings and accessories</u>			
151	Constant Air Supply Diffusers,SD01, with neck diameter 300mm	No	16	
152	300x300 Weather Louvres c/w all fittings and accessories fully installed & functioning	No	2	
153	300x300 Door Grilles c/w fittings and accessories	No	2	
154	1200x450 Return Air Grille	No	2	
	<u>Electrical Installations & connections</u>			
155	Cabling, power supply and all electrical work related to HVAC installation on this project		Item	
	<u>WET SERVICES</u>			
	<u>Preliminary and General</u>			
156	Technical Submissions		Item	
157	Workshop Drawings		Item	
158	Transport		Item	
159	Rigging		Item	
160	Compliance With Health and Safety Regulations		Item	
161	Attendance		Item	
162	Site Establishment		Item	
		Carried Forward		R
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Project Engineering Management and Quality Control</u>			
163	Testing, commissioning and handover of wet services including compilation of submitted to the Engineer for approval.	Item	
164	Operation and Maintenance Instruction Manuals(3Hard and 1 soft copies)	Sets 4,0	
165	User Client Training	Item	
166	Three Sets of "as built' drawings "including 1 on memory stick"	Item	
167	12 Months free maintenance	Item	
168	Any other item necessary that might have been omitted (allow 5%)	Item	
<u>supply, deliver, install & commission all items below</u>			
169	uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings) 50mm Diameter pipe	m 5	
170	Extra over uPVC pipes for fittings: 50mm Diameter x 22.5° bend	No 5	
171	50mm Diameter x 45° bend	No 2	
172	50mm Diameter x 90° bend	No 1	
173	50mm Couplings	No 2	
174	50mm Bend with inspection eye	No 1	
175	50mm Junction	No 1	
176	50mm Junction with inspection eye	No 1	
177	50mm Reducer	No 1	
178	50mm Reducer junction	No 1	
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R	
179	50mm Two-way air vent valve	No	1	
180	110mm Diameter x 22.5° bend	No	2	
181	110mm Diameter x 45° bend	No	1	
182	110mm Diameter x 90° bend	No	1	
183	110mm Couplings	No	2	
184	110mm Bend with inspection eye	No	1	
185	110mm Junction	No	1	
186	110mm Junction with inspection eye	No	4	
187	110mm Reducer	No	1	
188	110mm Reducer junction	No	1	
189	110mm Vent valve	No	1	
190	110mm Two-way vent valve	No	1	
191	200x200x100mm Sewer junction	No	1	
192	100mm Pan connector	No	1	
193	100mm Bent pan connector	No	1	
194	UPVC Glue	No	1	
195	50 mm anti-vac Traps - bottle type with s/s finish	No	10	
196	50 mm anti-vac Trap	No	1	
197	110 mm stub Stack c/w one way vent valve	No	1	
198	Rodding eye units complete in accordance with SABS Including concrete stabilization footing, Eye Cover, identification,piping and fittings	No	2	
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
199	110mm Diameter pipe	m	10	
200	110mm Bend	No	10	
201	110mm SSN couplings	No	10	
	<u>ABLUTION BLOCK (SANITATION)</u>			
	<u>supply, deliver, install & commission all items below:- (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
202	50mm Diameter pipe	m	30	
	<u>Extra over uPVC pipes for fittings:</u>			
203	50mm Diameter x 22.5° bend	No	36	
204	50mm Diameter x 45° bend	No	16	
205	50mm Diameter x 90° bend	No	10	
206	50mm Couplings	No	51	
207	50mm Bend with inspection eye	No	10	
208	50mm Junction	No	10	
209	50mm Junction with inspection eye	No	5	
210	50mm Reducer	No	20	
211	50mm Reducer junction	No	10	
212	50mm Two-way air vent valve	No	6	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
213	110mm Diameter x 22.5° bend	No	36	
214	110mm Diameter x 45° bend	No	16	
215	110mm Diameter x 90° bend	No	5	
216	110mm Couplings	No	50	
217	110mm Bend with inspection eye	No	5	
218	110mm Junction	No	20	
219	110mm Junction with inspection eye	No	5	
220	110mm Reducer	No	5	
221	110mm Reducer junction	No	5	
222	110mm Vent valve	No	3	
223	110mm Two-way vent valve	No	3	
224	200x200x100mm Sewer junction	No	2	
225	100mm Pan connector	No	15	
226	100mm Bent pan connector	No	15	
227	UPVC Glue	No	10	
228	50 mm anti-vac Traps - bottle type with s/s finish	No	17	
229	50 mm anti-vac Trap	No	10	
230	110 mm stub Stack c/w one way vent valve	No	7	
231	Rodding eye units complete in accordance with SABS Including concrete stabilization footing, Eye Cover, identification, piping and fittings	No	2	
	<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
232	110mm Diameter pipe	m	5	
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R	
233	110mm Bend	No	2	
234	110mm SSN couplings	No	2	
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
235	50mm Diameter pipe	m	30	
236	110mm Diameter pipe	m	20	
	<u>Extra over uPVC pipes for fittings:</u>			
237	50mm Diameter x 22.5° bend	No	10	
238	50mm Diameter x 45° bend	No	10	
239	50mm Diameter x 90° bend	No	30	
240	50mm Couplings	No	60	
241	50mm Bend with inspection eye	No	5	
242	50mm Junction	No	10	
243	50mm Junction with inspection eye	No	5	
244	50mm Reducer	No	15	
245	50mm Reducer junction	No	5	
246	50mm Two-way air vent valve	No	2	
247	110mm Diameter x 22.5° bend	No	30	
248	110mm Diameter x 45° bend	No	15	
249	110mm Diameter x 90° bend	No	6	
250	110mm Couplings	No	30	
251	110mm Bend with inspection eye	No	11	
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

[illegible]

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
270	50mm Diameter pipe	m	20	
271	110mm Diameter pipe	m	5	
	<u>Extra over uPVC pipes for fittings:</u>			
272	50mm Diameter x 22.5° bend	No	10	
273	50mm Diameter x 45° bend	No	5	
274	50mm Diameter x 90° bend	No	30	
275	50mm Couplings	No	40	
276	50mm Bend with inspection eye	No	12	
277	50mm Junction	No	6	
278	50mm Junction with inspection eye	No	6	
279	50mm Reducer	No	12	
280	50mm Reducer junction	No	6	
281	50mm Two-way air vent valve	No	6	
282	110mm Diameter x 22.5° bend	No	2	
283	110mm Diameter x 45° bend	No	1	
284	110mm Diameter x 90° bend	No	2	
285	110mm Couplings	No	2	
286	110mm Bend with inspection eye	No	1	
287	110mm Junction	No	1	
288	110mm Junction with inspection eye	No	1	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
289	110mm Reducer	No	1	
290	110mm Reducer junction	No	1	
291	110mm Vent valve	No	1	
292	110mm Two-way vent valve	No	1	
293	200x200x100mm Sewer junction	No	1	
294	100mm Pan connector	No	1	
295	100mm Bent pan connector	No	1	
296	UPVC Glue	No	5	
297	50 mm anti-vac Traps - bottle type with s/s finish	No	12	
298	50 mm anti-vac Trap	No	12	
299	110 mm stub Stack c/w one way vent valve	No	2	
300	Rodding eye units complete in accordance with SABS Including concrete stabilization footing, Eye Cover, identification, piping and fittings	No	2	
<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>				
301	110mm Diameter pipe	m	1	
302	110mm Bend	No	1	
303	110mm SSN couplings	No	1	
304	110mm Cast iron pan connector	No	1	
<u>MEDIA CENTRE (SANITATION)</u>				
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
305	50mm Diameter pipe	m	3	
306	110mm Diameter pipe	m	9	
	<u>Extra over uPVC pipes for fittings:</u>			
307	50mm Diameter x 22.5° bend	No	2	
308	50mm Diameter x 45° bend	No	1	
309	50mm Diameter x 90° bend	No	1	
310	50mm Couplings	No	5	
311	50mm Bend with inspection eye	No	3	
312	50mm Junction	No	1	
313	50mm Junction with inspection eye	No	1	
314	50mm Reducer	No	1	
315	50mm Reducer junction	No	1	
316	50mm Two-way air vent valve	No	1	
317	110mm Diameter x 22.5° bend	No	4	
318	110mm Diameter x 45° bend	No	1	
319	110mm Diameter x 90° bend	No	2	
320	110mm Couplings	No	2	
321	110mm Bend with inspection eye	No	1	
322	110mm Junction	No	1	
323	110mm Junction with inspection eye	No	1	
324	110mm Reducer	No	1	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
325	110mm Reducer junction	No	1	
326	110mm Vent valve	No	1	
327	110mm Two-way vent valve	No	1	
328	200x200x100mm Sewer junction	No	1	
329	100mm Pan connector	No	1	
330	100mm Bent pan connector	No	1	
331	UPVC Glue	No	9	
332	50 mm anti-vac Traps - bottle type with s/s finish	No	4	
333	50 mm anti-vac Trap	No	4	
334	110 mm stub Stack c/w one way vent valve	No	2	
335	Rodding eye units complete in accordance with SABS Including concrete stabilization footing, Eye Cover, identification, piping and fittings	No	2	
	<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
336	110mm Diameter pipe	m	1	
337	110mm Bend	No	1	
338	110mm SSN couplings	No	1	
339	110mm Cast iron pan connector	No	1	
	<u>COMPUTER ROOM (SANITATION)</u>			
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
340	50mm Diameter pipe	m	10	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
341	110mm Diameter pipe	m	3	
	<u>Extra over uPVC pipes for fittings:</u>			
342	50mm Diameter x 22.5° bend	No	5	
343	50mm Diameter x 45° bend	No	3	
344	50mm Diameter x 90° bend	No	15	
345	50mm Couplings	No	20	
346	50mm Bend with inspection eye	No	6	
347	50mm Junction	No	3	
348	50mm Junction with inspection eye	No	3	
349	50mm Reducer	No	6	
350	50mm Reducer junction	No	3	
351	50mm Two-way air vent valve	No	3	
352	110mm Diameter x 22.5° bend	No	1	
353	110mm Diameter x 45° bend	No	1	
354	110mm Diameter x 90° bend	No	1	
355	110mm Couplings	No	1	
356	110mm Bend with inspection eye	No	1	
357	110mm Junction	No	1	
358	110mm Junction with inspection eye	No	1	
359	110mm Reducer	No	1	
360	110mm Reducer junction	No	1	
361	110mm Vent valve	No	1	
362	110mm Two-way vent valve	No	1	
363	200x200x100mm Sewer junction	No	1	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
364	100mm Pan connector	No	1	
365	100mm Bent pan connector	No	1	
366	UPVC Glue	No	3	
367	50 mm anti-vac Traps - bottle type with s/s finish	No	6	
368	50 mm anti-vac Trap	No	6	
369	110 mm stub Stack c/w one way vent valve	No	1	
370	110mm Bend	No	1	
371	110mm SSN couplings	No	1	
372	110mm Cast iron pan connector	No	1	
	<u>ECD BLOCK (SANITATION)</u>			
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
373	50mm Diameter pipe	m	30	
374	110mm Diameter pipe	m	25	
	<u>Extra over uPVC pipes for fittings:</u>			
375	50mm Diameter x 22.5° bend	No	10	
376	50mm Diameter x 45° bend	No	10	
377	50mm Diameter x 90° bend	No	30	
378	50mm Couplings	No	60	
379	50mm Bend with inspection eye	No	15	
380	50mm Junction	No	10	
381	50mm Junction with inspection eye	No	5	
		Carried Forward		R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
382	50mm Reducer	No	15
383	50mm Reducer junction	No	1
384	50mm Two-way air vent valve	No	4
385	110mm Diameter x 22.5° bend	No	20
386	110mm Diameter x 45° bend	No	11
387	110mm Diameter x 90° bend	No	4
388	110mm Couplings	No	30
389	110mm Bend with inspection eye	No	11
390	110mm Junction	No	11
391	110mm Junction with inspection eye	No	5
392	110mm Reducer	No	1
393	110mm Reducer junction	No	1
394	110mm Vent valve	No	2
395	110mm Two-way vent valve	No	2
396	200x200x100mm Sewer junction	No	1
397	100mm Pan connector	No	9
398	100mm Bent pan connector	No	9
399	UPVC Glue	No	10
400	50 mm anti-vac Traps - bottle type with s/s finish	No	3
401	50 mm anti-vac Trap	No	15
402	110 mm stub Stack c/w one way vent valve	No	9
403	Rodding eye units complete in accordance with SABS Including concrete stabilization footing, Eye Cover, identification, piping and fittings	No	2
	Carried Forward		R
	Section No. 5 Bill No. 1 Mechanical		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
404	110mm Diameter pipe	m	1	
405	110mm Bend	No	1	
406	110mm SSN couplings	No	1	
407	110mm Cast iron pan connector	No	1	
	<u>NUTRITION BLOCK (SANITATION)</u>			
	<u>supply, deliver, install & commission all items below</u>			
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc. (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
408	50mm Diameter pipe	m	15	
	<u>Extra over uPVC pipes for fittings:</u>			
409	50mm Diameter x 22.5° bend	No	5	
410	50mm Diameter x 45° bend	No	5	
411	50mm Diameter x 90° bend	No	10	
412	50mm Couplings	No	10	
413	50mm Bend with inspection eye	No	2	
414	50mm Junction	No	2	
415	50mm Junction with inspection eye	No	2	
416	50mm Reducer	No	5	
417	50mm Reducer junction	No	5	
418	50mm Two-way air vent valve	No	5	
	Carried Forward			R
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

[illegible]

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
	<u>Cast iron socketed heavy duty soil and waste piping laid to falls in concrete floors (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
438	110mm Diameter pipe	m	1	
439	110mm Bend	No	1	
440	110mm SSN couplings	No	1	
441	Total for Media Centre	No	1	
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>			
442	15mm Diameter pipe	m	100	
443	15mm Bend	No	100	
444	15mm Tee	No	70	
445	15mm Female to female couplings	No	50	
446	22mm x 15mm Eccentric reducer	No	40	
447	22mm Diameter pipe	m	40	
448	22mm Bend	No	40	
449	22mm Tee	No	40	
450	22mm Female to female couplings	No	40	
451	28mm x 22mm Eccentric reducer	No	40	
452	28mm Diameter pipe	m	40	
453	28mm Bend	No	40	
454	28mm Tee	No	40	
455	28mm Female to female couplings	No	30	
456	35mm x 28mm Eccentric reducer	No	30	
457	35mm Diameter pipe	m	30	
	Carried Forward			R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R	
458	35mm Bend	No	10		
459	35mm Tee	No	10		
460	35mm Female to female couplings	No	10		
461	42mm x 35mm Eccentric reducer	No	10		
462	42mm Diameter pipe	m	10		
463	42mm Bend	No	15		
464	42mm Tee	No	10		
465	42mm Female to female couplings	No	10		
466	48mm x 42mm Eccentric reducer	No	15		
467	48mm Diameter pipe	m	10		
468	48mm Bend	No	10		
469	48mm Tee	No	10		
470	48mm Female to female couplings	No	10		
471	54mm x 48mm Eccentric reducer	No	15		
472	54mm Diameter pipe	m	10		
473	54mm Bend	No	10		
474	54mm Tee	No	10		
475	54mm Female to female couplings	No	10		
476	35mm Fittings	No	10		
477	42mm Fittings	No	10		
478	48mm Fittings	No	10		
479	54mm Fittings	No	10		
480	15mm Compression rings	No	500		
481	22mm Compression rings	No	300		
		Carried Forward		R	
	Section No. 5				
	Bill No. 1				
	Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
482	28mm Compression rings	No	250	
483	35mm Compression rings	No	150	
484	42mm Compression rings	No	100	
485	48mm Compression rings	No	50	
486	54mm Compression rings	No	50	
<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>				
<u>Classroom Blocks(COLD Water Services)</u>				
<u>Class O hard drawn copper pipes complying with SABS 460:</u>				
487	15mm Diameter pipe	m	315	
488	15mm Bend	No	200	
489	15mm Tee	No	200	
490	15mm Female to female couplings	No	200	
491	22mm x 15mm Eccentric reducer	No	125	
492	22mm Diameter pipe	m	125	
493	22mm Bend	No	70	
494	22mm Tee	No	70	
495	22mm Female to female couplings	No	70	
496	Extra over copper pipes for soldered capillary fittings: 15mm Fittings	No	8	
497	22mm Fittings	No	10	
Carried Forward				
Section No. 5 Bill No. 1 Mechanical				
				R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
498	Allow for soccer pitch irrigation complete system as a P-Sum amount Workshop drawings for the soccer pitch irrigation system		Item	
499	Technical submittals for approval of the irrigation system		Item	
500	As-built drawings for the soccer pitch irrigation system		Item	
	<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>			
	<u>Ablutions (Cold Water Services)</u>			
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>			
501	15mm Diameter pipe	m	315	
502	15mm Bend	No	200	
503	15mm Tee	No	200	
504	15mm Female to female couplings	No	200	
505	22mm x 15mm Eccentric reducer	No	125	
506	22mm Diameter pipe	m	125	
507	22mm Bend	No	70	
508	22mm Tee	No	70	
509	22mm Female to female couplings	No	70	
510	35mm x 28mm Eccentric reducer	No	50	
511	35mm Diameter pipe	m	20	
512	35mm Bend	No	15	
513	35mm Tee	No	15	
514	35mm Female to female couplings	No	15	
	Carried Forward			R
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R
515	42mm x 35mm Eccentric reducer	No	15	
516	42mm Diameter pipe	m	25	
517	42mm Bend	No	8	
518	42mm Tee	No	8	
519	42mm Female to female couplings	No	30	
520	48mm x 42mm Eccentric reducer	No	8	
521	48mm Diameter pipe	m	15	
522	48mm Bend	No	8	
523	48mm Tee	No	8	
524	48mm Female to female couplings	No	30	
525	54mm x 48mm Eccentric reducer	No	8	
526	54mm Diameter pipe	m	15	
527	54mm Bend	No	8	
528	54mm Tee	No	8	
529	54mm Female to female couplings	No	8	
530	Fittings	No	10	
531	Fittings	No	10	
532	Fittings	No	10	
533	Compression rings	No	300	
534	Compression rings	No	200	
535	Compression rings	No	180	
536	Compression rings	No	100	
537	Compression rings	No	80	
538	Compression rings	No	30	
		Carried Forward		R
	Section No. 5			
	Bill No. 1			
	Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
539	Compression rings	No	30
	<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>		
	<u>Bill 14: Admin Block(COLD WATER SUPPLY)</u>		
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>		
540	15mm Diameter pipe	m	315
541	15mm Bend	No	200
542	15mm Tee	No	200
543	15mm Female to female couplings	No	200
544	22mm x 15mm Eccentric reducer	No	125
545	22mm Diameter pipe	m	125
546	22mm Bend	No	70
547	22mm Tee	No	70
548	22mm Female to female couplings	No	70
549	Extra over copper pipes for soldered capillary fittings: 15mm Fittings	No	8
550	22mm Fittings	No	10
551	28mm Fittings	No	10
552	35mm Fittings	No	10
553	42mm Fittings	No	10
554	48mm Fittings	No	10
555	54mm Fittings	No	10
556	15mm Compression rings	No	300
	Carried Forward		R
	Section No. 5 Bill No. 1 Mechanical		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward			R
557	22mm Compression rings	No	200	
558	Allow for soccer pitch irrigation complete system as a P-Sum amount Workshop drawings for the soccer pitch irrigation system		Item	
559	Technical submittals for approval of the irrigation system		Item	
560	As-built drawings for the soccer pitch irrigation system		Item	
	<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>			
	<u>Laborotaory(Cold Water Services)</u>			
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>			
561	15mm Diameter pipe	m	315	
562	15mm Bend	No	200	
563	15mm Tee	No	200	
564	15mm Female to female couplings	No	200	
565	22mm x 15mm Eccentric reducer	No	125	
566	22mm Diameter pipe	m	125	
567	22mm Bend	No	70	
568	22mm Tee	No	70	
569	22mm Female to female couplings	No	70	
	<u>Extra over copper pipes for soldered capillary fittings:</u>			
570	15mm Fittings	No	8	
571	22mm Fittings	No	10	
	Carried Forward			R
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R	
572	28mm Fittings	No	10	
573	35mm Fittings	No	10	
574	42mm Fittings	No	10	
575	48mm Fittings	No	10	
576	54mm Fittings	No	10	
577	15mm Compression rings	No	300	
578	22mm Compression rings	No	200	
579	Allow for soccer pitch irrigation complete system as a P-Sum amount Workshop drawings for the soccer pitch irrigation system		Item	
580	Technical submittals for approval of the irrigation system		Item	
581	As-built drawings for the soccer pitch irrigation system		Item	
	<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>			
	<u>Media Centre (Cold Water Services)</u>			
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>			
582	15mm Diameter pipe	m	315	
583	15mm Bend	No	200	
584	15mm Tee	No	200	
585	15mm Female to female couplings	No	200	
586	22mm x 15mm Eccentric reducer	No	125	
587	22mm Diameter pipe	m	125	
588	22mm Bend	No	70	
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

		Brought Forward		R	
589	22mm Tee	No	70		
590	22mm Female to female couplings	No	70		
591	28mm x 22mm Eccentric reducer	No	70		
592	28mm Diameter pipe	m	70		
593	28mm Bend	No	70		
594	28mm Tee	No	50		
595	28mm Female to female couplings	No	50		
596	35mm x 28mm Eccentric reducer	No	50		
597	35mm Diameter pipe	m	20		
598	35mm Bend	No	15		
599	35mm Tee	No	15		
600	35mm Female to female couplings	No	15		
601	42mm x 35mm Eccentric reducer	No	15		
602	42mm Diameter pipe	m	25		
603	42mm Bend	No	8		
604	42mm Tee	No	8		
605	42mm Female to female couplings	No	30		
606	48mm x 42mm Eccentric reducer	No	8		
607	48mm Diameter pipe	m	15		
608	48mm Bend	No	8		
609	48mm Tee	No	8		
610	48mm Female to female couplings	No	30		
611	54mm x 48mm Eccentric reducer	No	8		
612	54mm Diameter pipe	m	15		
		Carried Forward		R	
	Section No. 5				
	Bill No. 1				
	Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

[illegible]

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			
<u>Class O hard drawn copper pipes complying with SABS 460:</u>			
629	15mm Diameter pipe	m	315
630	15mm Bend	No	200
631	15mm Tee	No	200
632	15mm Female to female couplings	No	200
633	22mm x 15mm Eccentric reducer	No	125
634	22mm Diameter pipe	m	125
635	22mm Bend	No	70
636	22mm Tee	No	70
637	22mm Female to female couplings	No	70
638	28mm x 22mm Eccentric reducer	No	70
639	28mm Diameter pipe	m	70
640	28mm Bend	No	70
641	28mm Tee	No	50
642	28mm Female to female couplings	No	50
643	35mm x 28mm Eccentric reducer	No	50
644	35mm Diameter pipe	m	20
645	35mm Bend	No	15
646	35mm Tee	No	15
647	35mm Female to female couplings	No	15
648	42mm x 35mm Eccentric reducer	No	15
649	42mm Diameter pipe	m	25
650	42mm Bend	No	8
Carried Forward			
Section No. 5 Bill No. 1 Mechanical			

R

R

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R	
651	42mm Tee	No	8	
652	42mm Female to female couplings	No	30	
653	48mm x 42mm Eccentric reducer	No	8	
654	48mm Diameter pipe	m	15	
655	48mm Bend	No	8	
656	48mm Tee	No	8	
657	48mm Female to female couplings	No	30	
658	54mm x 48mm Eccentric reducer	No	8	
659	54mm Diameter pipe	m	15	
660	54mm Bend	No	8	
661	54mm Tee	No	8	
662	54mm Female to female couplings	No	8	
663	42mm Compression rings	No	10	
664	48mm Compression rings	No	10	
665	54mm Compression rings	No	10	
666	15mm Compression rings	No	300	
667	22mm Compression rings	No	200	
668	28mm Compression rings	No	180	
669	35mm Compression rings	No	100	
670	42mm Compression rings	No	80	
671	48mm	No	30	
672	54mm	No	30	
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
<u>Allow for soccer pitch irrigation complete system as a P-Sum amount</u>				
673	Workshop drawings for the soccer pitch irrigation system		Item	
674	Technical submittals for approval of the irrigation system		Item	
675	As-built drawings for the soccer pitch irrigation system		Item	
<u>supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism</u>				
<u>ECD Block (Cold Water Services)</u>				
<u>Class O hard drawn copper pipes complying with SABS 460:</u>				
676	15mm Diameter pipe	m	315	
677	15mm Bend	No	200	
678	15mm Tee	No	200	
679	15mm Female to female couplings	No	200	
680	22mm x 15mm Eccentric reducer	No	125	
681	22mm Diameter pipe	m	125	
682	22mm Bend	No	70	
683	22mm Tee	No	70	
684	22mm Female to female couplings	No	70	
685	28mm x 22mm Eccentric reducer	No	70	
686	28mm Diameter pipe	m	70	
687	28mm Bend	No	70	
688	28mm Tee	No	50	
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R	
689	28mm Female to female couplings	No	50	
690	35mm x 28mm Eccentric reducer	No	50	
691	35mm Diameter pipe	m	20	
692	35mm Bend	No	15	
693	35mm Tee	No	15	
694	35mm Female to female couplings	No	15	
	<u>Extra over copper pipes for soldered capillary fittings:</u>			
695	15mm Fittings	No	8	
696	22mm Fittings	No	10	
697	28mm Fittings	No	10	
698	35mm Fittings	No	10	
699	42mm Fittings	No	10	
700	54mm Fittings	No	10	
701	15mm Compression rings	No	300	
702	22mm Compression rings	No	200	
703	28mm Compression rings	No	180	
704	35mm Compression rings	No	100	
705	Allow for soccer pitch irrigation complete system as a P-Sum amount Workshop drawings for the soccer pitch irrigation system		Item	
706	Technical submittals for approval of the irrigation system		Item	
707	As-built drawings for the soccer pitch irrigation system		Item	
	<u>FIRE</u>			
	Carried Forward		R	
	Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>Preliminary and General</u>			
708	Technical Submissions	Item	
709	Workshop Drawings	Item	
710	Transport	Item	
711	Rigging	Item	
712	Compliance With Health and Safety Regulation	Item	
713	Attendance	Item	
714	Site Establishment	Item	
<u>Quality Control</u>			
715	Services including compilation of submitted to the Engineer for approval.	Item	
716	Operation and Maintenance Instruction Manuals(3Hard and 1 soft copies)	Sets 1,0	
717	User Client Training	Item	
718	on memory stick	Item	
719	12 Months free maintenance	Item	
720	Any other item neccesary that might have been omitted (allow 5%)	No 1	
<u>HDPE polyethelene class 16 pipe with O-ring screw type fittings (It must be noted that all underground pipework must be HDPE with fusion welded joints and fittings)</u>			
721	100mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m 133	
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
722	100mm Diameter SSN couplings	No	33
723	100mm Diameter 45° Bends	No	7
724	100mm Diameter Tee's	No	3
<u>75mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding</u>			
725	1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	70
726	75mm Diameter SSN couplings	No	13
727	75mm Diameter 90° Bends	No	2
728	75mm Diameter 45° Bends	No	3
729	75mm Diameter Tee's	No	3
<u>50mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding</u>			
730	1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	70
731	50mm Diameter SSN couplings	No	7
732	50mm Diameter 90° Bends	No	2
733	50mm Diameter 45° Bends	No	2
734	50mm Diameter Tee's	No	3
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward			R
<u>32mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding</u>			
735	1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	77
736	50mm Diameter SSN couplings	No	3
737	50mm Diameter 90° Bends	No	10
738	50mm Diameter 45° Bends	No	12
<u>supply, deliver, install & commission all items below Medium class galvanised mild steel screwed and socketed piping in accordance with BS 1387</u>			
739	50mm diameter pipe	m	23
740	32mm diameter pipe	m	23
741	25mm diameter pipe	m	113
742	100mm HDPE to Galvanised adoptor	No	1
743	100mm 90° bend	No	1
744	100 x 75mm Reducer	No	3
745	100mm Ball isolating valve with lever handle	No	2
746	75mm 90° bend	No	3
747	75 x 50mm Eccentric reducer	No	1
748	Total for Media Centre	No	7
749	75mm Ball isolating valve with lever handle	No	1
750	50mm 90° bend	No	2
751	50mm Nipple	No	3
752	50mm Union	No	3
Carried Forward			R
Section No. 5 Bill No. 1 Mechanical			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward				R
753	50mm Ball isolating valve with lever handle	No	1	
754	50 x 32mm Eccentric reducer	No	2	
755	50 x 25mm Eccentric reducer	No	3	
756	32mm 90° bend	No	3	
757	32m Nipple	No	3	
758	32mm Union	No	3	
759	32mm Tee's	No	1	
760	32 x 25mmmm Eccentric reducer	No	3	
761	25mm 90° bend	No	23	
762	25m Nipple	No	23	
763	25mm Union	No	23	
764	25mm Tee's	No	3	
765	Approved fire and escape route signages	No	47	
766	75mm diameter Fire Twin booster valves	No	1	
767	75mm diameter Fire hydrant encased in concrete block as per SANS	No	2	
768	Approved hose reel c/w 30m of 19mm hose all to SABS 543 incorporating 25mm chromium plated gunmetal gate valve and connection for and joint to supply pipe with brackets bolted to wall with and including four 8mm bolts with plate washers built 100mm into brickwork in cement mortar.	No	10	
769	Approved 4.5Kg DCP cylindrical fire extinguisher fixed on and including backing boards to walls	No	1	
770	5Kg CO2 Fire Extinguishers	No	2	
771	Allow for a fire booster pump as a P-Sum amou	No	1	
772	Allow for a 144kL fire storage tank as a P-Sum amount	No	1	
Carried Forward				R
Section No. 5 Bill No. 1 Mechanical				

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

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CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Item No		Quantity	Rate	Amount
	<u>SECTION 4</u>			
	<u>BILL 1</u>			
	<u>PROVISIONAL SUMS, BUDGETARY ALLOWANCES</u>			
	<u>PREAMBLES FOR TRADES</u>			
	The General 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 description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PROVISIONAL SUMS</u>			
	<u>Repairs to electrical main kiosk</u>			
1	Provide the sum of R900, 000 (Nine Hundred Thousand Rands) for power reconnection, spec change and main kiosk repair	Item		
2	Allow for profit	Item		
3	Allow for attendance	Item		
	<u>Burglar proofing</u>			
4	Provide the sum of R6, 500, 000.00 (Six Million, Five Hundred Thousand Rands) for burglar proofing	Item		
5	Allow for profit	Item		
6	Allow for attendance	Item		
	<u>Elevated Tank</u>			
7	Provide the sum of R6, 000, 000 (Six Million Rands) for two elevated tanks.	Item		
	Carried Forward		R	
	Section No. 6			
	Bill No. 1			
	PROVISIONAL SUMS			

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
8	Allow for profit	Item	
9	Allow for attendance	Item	
	<u>Equipment</u>		
10	Provide the sum of R6, 000, 000 (Six Million Rands) for all equipment.	Item	
11	Allow for profit	Item	
12	Allow for attendance	Item	
	<u>Joinery Fittings</u>		
13	Provide the sum of R5, 000, 000 (Three Million Rands) for Joinery Fittings.	Item	
14	Allow for profit	Item	
15	Allow for attendance	Item	
	<u>Furniture</u>		
16	Provide the sum of R3, 000, 000 (Three Million Rands) for Loose Furniture.	Item	
17	Allow for profit	Item	
18	Allow for attendance	Item	
	<u>Blinds</u>		
19	Provide the sum of R400, 000 (Four Hundred Thousand) for blinds	Item	
20	Allow for profit	Item	
21	Allow for attendance	Item	
	<u>Signage</u>		
22	Provide the sum of R650, 000 (Six Hundred and Fifty Thousand Rands) for signage	Item	
	Carried Forward		R
	Section No. 6		
	Bill No. 1		
	PROVISIONAL SUMS		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

	Brought Forward		R
23	Allow for profit	Item	
24	Allow for attendance	Item	
	<u>Handrails</u>		
25	Provide the sum of R800, 000 (Eight Hundred Thousand Rands)	Item	
26	Allow for profit	Item	
27	Allow for attendance	Item	
	<u>Gas Installation</u>		
28	Provide the sum of R1, 500, 000 (One Million Five Eight Hundred Thousand Rands)	Item	
29	Allow for profit	Item	
30	Allow for attendance	Item	
	<u>BOREHOLE</u>		
31	Allow R2, 250, 000 (Two Million, Two Hundred and Fifty Thousand Rands) for Borehole	Item	
32	Allow for Profit	Item	
33	Allow for attendance	Item	
	<u>WATER PURIFICATION PLANT</u>		
34	Allow R5, 000, 000 (Five Million Rands) for Water Purification Plant	Item	
35	Allow for Profit	Item	
36	Allow for attendance	Item	
	<u>LANDSCAPING</u>		
37	Allow 4, 500, 000 (Four Million, Five Hundred Thousand Rands) for Landscaping	Item	
	Carried Forward		R
	Section No. 6		
	Bill No. 1		
	PROVISIONAL SUMS		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

Brought Forward		R
38	Allow for Profit	Item
39	Allow for attendance	Item
<u>BUDGETARY ALLOWANCES</u>		
<u>Community Liason Officer</u>		
40	Provide the sum of R500, 000 (Five Hundred Thousand Rands)	Item
<u>Contract Price Adjustment (Escalation)</u>		
41	Provide the sum of R9, 625, 000 (Nine Million, Six Hundred and Twenty-Five Thousand Rands) for CPAP (Contract Price Adjustment)	Item
Carried to Final Summary		R
Section No. 6 Bill No. 1 PROVISIONAL SUMS		

CONSTRUCTION OF JTG SCHOOL- PHASE 2A

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