CLIENT: FREEDOM PARK

PROJECT: SUPPLY AND INSTALL NEW HVAC SYSTEM FOR GALAERY OF LEADERS AT

FREEDOM PARK

CONTRACT: MECHANICAL SERVICES - HVAC

Tender No: --

Item No.	Description	Unit	Amount
A	Additional P & G in accordance with the Standard and Detailed specification		
	AGREEMENT AND SCHEDULE OF BUILDING CONTRACT		
	Tenderers shall allow for all the clauses as referred to in the "Standard Main		
	Contract Preliminaries" as contained in the Conditions of Contract(copy included		
	in Part A attached here-to). The Tenderer shall, in addition, allow for whatever		
	cost he may		
A1	FIXED CHARGE ITEMS		
A1.1	Contractual requirements	Item	
A2	Establishement of Facilities on the site		
A2.1	Site Establishement	Item	
A2.1	Site Establishement	nem	
A3	Facilities for Engineer		
A3.1	Offices, furnished rooms with telephone and name boards	Item	
A3.2	Carports for Resident Engineer	Item	
	5 77 6 0 1 1		
A4	Facilities for Contractor		
A4.1	Facilities for contractor	Item	
A4. I	i aclinies for contractor	iteiii	
A4.2	Site Offices and storage sheds	Item	
	5		
A4.3	Allow for Storage of material on site	Item	
A4.4	Ablution and Latrine facilities for contractor	Item	
A4.5	Tools and Equipement and Plant on site	Item	
A4.3	Tools and Equipernent and Plant on Site	item	
A4.6	Allow for Electrical Power during site Construction	Item	
	,		
A4.7	Allow for Water Suppliers during construction	Item	
A4.8	Allow for comminication and access related issues to site	Item	
110			
A4.9	Allow for attendance to site meetings	Item	
A4.10	Other fixed charge Obligation	Item	
	Sites and divings obligation		
A4.11	Removal of Site Establishement	Item	
A4.12	Allow provisions for scaffolding in the installation of fan coil units	Item	
A4.13	Allow provisions for a crane for the installation of outdoor units	Rate Only per day	
	Preliminaries and Generals Carried Forward		

	Preliminaries and Generals Brought Forward		<u> </u>
	Preliminaries and Generals Brought Forward		
	PROVISIONAL SUMS FOR:		
	THOUSE COME TOX.		
A 5	Additional control testing ordered by the Engineer to be executed by the contractor.	Sum	
A /	T W.I	11	
A6	Temporary Works	Item	
A7	Main Acess to road from/to works	Itom	
A/	INITIAL ACESS TO TO AUTOTITATO WOLKS	Item	
A8	Traffic Management	Item	
7.0	Traine Wanagement	item	
A10	COST OF SURVEY		
A10.1	Trigonometrical survey and pegging - Locate and record	Item	
A11	OCCUPATIONAL HEALTH AND SAFETY		
	Without limiting the generality of the provision of Contract, the Contractor's attention is	Item	
	drawn to the provision of the Construction Regulation, 2003 (as amended), issued in		
	terms of the Occupational Health and sfety Act, 1993, in which it is specifically stated that		
	the Employer shall prepare a documented health and safety specification for the		
	works(refer to part 3:Scope of work - C3.4: Occupational Health and Safety Specification)		
	and that the employer shall ensure that the Contractor has made provision for the cost of		
	health and safety measures during the execution of works. The Contractor shall price		
	opposite this item for compliance with the Act and the regulation and provisions of the		
	aforementioned Health and Safety specification		
	and office the after data outers specimentally		
A12	Supply programme with bar chart	Item	
A13	Compliance with heritage regulations	Item	
A14	Compliance with environment regulation	Item	
A15	Prepare and deliver 3 copies of Safety File including covid compliance	Item	
A16	Contractor to inform Department of Labour Before constrction commences	Item	
A17	Allow for covid compliance, sanitizers and sanitizing stations on site.	Item	
440	CONTARCT PRAYUNGS		
A18	CONTARCT DRAWINGS		
Λ10 1	The drawing issued with the tender decument do not comprise the complete set but		
A18.1	The drawing issued with the tender document do not comprise the complete set but		
	serves as guide only for tendering purposes and for indicting 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 drawing not be clearly		
	intelligable to the tender he shall, before submitting his tender obtaining clarification in		
	writing from the Engineer		
	Preliminaries and Generals Carried Forward		
	Freminialies and Generals Carried Forward		

	Preliminaries and Generals Brought Forward		
A10.2	Draggation and submission of shortless describes for approval by the appiness	Itom	
A18.2	Preparation and submission of shopfloor drawings for approval by the engineer	Item	
A18.3	Prepartion of as built drawings 3 (A0 copies) and soft copy on flashdrive	Item	
A10.3	r repartion of as built drawings 3 (No copies) and soft copy of masharive	item	
A18.4	Submitt to engineer specifications from supplier before procurement	Item	
A18.5	Supply and Install maintenance manuals after completion	Item	
A18.6	Supply and Install maintenance manuals after completion	Item	
A18.7	Issue Certificate of Compliance from a registered person by Sarracca	Item	
A18.8	Allow for testing and Commissioning of the system	item	
A18.9	Allow for testing and Commissioning of the entire system in the presence of engineer or engineer's representative and contractor	Item	
A18.10	Cary out onsite measurements for shopfloor drawings and installation	item	
A18.11	Compliance with labour management regulations	Item	
A18.12	Allow for Housekeeping during constrction and provision of a safety officer	Item	
A18.13	Allow for site diary, site instruction book and all relevant documentation as per contract.	Item	
A19	COLOUR CODED SAFETY CLOTHING		
	The contractor shall provide all employees on site with brightly coloured, clearly visible		
	protective clothing for use at all times on site. All personel belonging to any one contractor shall wear the same colour protective clothing on site.	Item	
A20	WORKING HOURS		
	All work shall be carried out from 08.00 hours to 1700 hrs on Weekdays and from 08.00		
	hours to 1500hrs on Saturday. Work outside of these times shall be undertaken only with express written authorisation of the Agent. No work shall be scheduled for nor undertaken on Sundays and Statutory public holiday.	NOTE	NOTE
A21	IDENTIFICATION CARDS/BADGES		
AZI	Provision shall be made for all employess on site to wear and clearly display identification	Item	
	cards or badges issued specifically for the project which shall prominently display a passport size colour photogragh of the employee, ID number, Name of Employer and		
	such information as shall be prescribed by the engineer. The contractor shall allow for the		
	cost of providing these identification cards/badges in his tender		
	Preliminaries and Generals Carried Forward		

	Preliminaries and Generals Brought Forward		
A23	ELECTRICIANS ON SITE		
	Contractor to have an Electrician to attend all electrical works for the contract perion	Item	
A24	GUARANTEE		
	Provide a 12 month Gaurantee period from the period of Final Handover of the project for	Item	
	the installation carried out. Installations should conform to SABS standards or/and British		
	Standards whichever the Mechanical Engineer has approved. The Engineer shall require		
	SABS certificates for all material supplied and installed and the Contractor shall liase with		
	the manufacure and make sure such certificates are supplied to the engineer. The		
	Cerificates shall indicate the relevant tests done by the Manufacturer.		
A25	12 MONTH PREVENTATIVE MAINTANANCE		
	The Contractor shall supply reconmeded maintanace control plans from the manufacture		
	and shall carry out the maintanance for a period of 12 months starting from the day of	Item	
	final handover to the client.		
Α	Total carried to A Summary Page	·	

CLIENT: FREEDOM PARK

PROJECT: SUPPLY AND INSTALL NEW HVAC SYSTEM FOR GALAERY OF LEADERS

AT FREEDOM PARK
CONTRACT: MECHANICAL SERVICES - HVAC

	MECHANICAL SERVICES - HVAC	T			
Item No.	Description	Unit	Qty	Rate	Amount
В	HVAC SERVICE				
ь	TIVAC SERVICE				
	MECHANICAL WORK				
	SUPPLEMENTARY PREAMBLES				
	SUPPLEMENTARY PREAMBLES				
	Specifications, drawings, etc.				
	Tenderers are referred to the specification and drawings numbered accompanying these bills of quantities for the mechanical work, for the full descriptions of the				
	following items which are to be read and priced in conjunction with the said				
	specification and drawings				
	Ductwork				
	Descriptions of ducts shall be deemed to include stiffeners, jointing materials,				
	sealants, couplers in the running length and access/inspection panels in				
	accordance with the specification				
	Dampare				
	Dampers				
	Descriptions of smoke and fire dampers shall be deemed to include fusible links,				
	sleeves, frames, supports and access openings in ducts				
	Air diffusion				
	All ullusion				
	Descriptions of air terminals, grilles, louvres and the like shall be deemed to				
	include necks, frames, supports and flexible connections				
	Fans				
	i ans				
	Descriptions of fan assemblies shall be deemed to include supports from the				
	structure, flexible or other connections to ductwork, vibration isolation mountings				
	and airtight inspection doors				
	Sound attenuators				
	Descriptions of sound attenuators shall be deemed to include flanged or flexible				
	connections to ducts and supports from the structure				
	Fan coil units, fan air terminals and fan heaters				
	Descriptions of fan coil units, fan air terminals and fan heaters shall be deemed to				
	include connection points for water, air and electrical supply, for air grilles, dust				
	trays, condensate trays and vibration isolation mountings. Flexible ducts, flexible				
	hose and connecting cables for connecting these units to each other or to water				
	pipe, and electrical supply are separately measured				
	BALANCE BROUGHT DOWN				

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BALANCE BROUGHT FORWARD				
DALINGE BROOM FORWARD				
Major equipment				
Descriptions of major equipment such as VRV units, air handling units and the like				
shall be deemed to include connections to water, air and electrical supply and/or				
discharge points, supports, bearers, vibration insulation mountings, filters,				
insulation, inspection ladders and gangways, access doors and panels and				
painting etc. as specified				
Piping				
Ding diameters are naminal internal unless otherwise stated				
Pipe diameters are nominal internal unless otherwise stated				
Where fittings have reducing ends or branches they are described as "reducing".				
In the case of pipes with diameters not exceeding 60mm only the largest end or				
branch diameter is given. Should the D&B wish to use other fittings and bushes or				
reducers he may do so on the understanding that no claim in this regard will be				
entertained. In the case of pipes with diameters exceeding 60mm all diameters				
are given and no claim for extra bushes, reducers, etc. will be entertained				
Fixing of pipes				
Unless otherwise stated, descriptions of pipes shall be deemed to include fixing to				
walls etc., casting in, building in or suspending not exceeding 1m below				
suspension level				
Insulation				
insulation				
Descriptions of insulation shall be deemed to include priming the pipes with zinc				
chromate primer before the insulation is applied, painting the insulation when				
completed and applying vapour barrier where specified				
and appropriate the second sec				
Air Conditioning Units				
Note: Supply And Install New Outdoor And Indoor Units. Heat Recovery Range				
Complete with Heat Pump Function, Mounting Ancillaries, Refrigerant Charge,				
Hard Wired, Condensate Piping and Interconnecting Power Cables Completely as				
Specified and Suspended from the Slab or Steel Structure. Supports to Include all				
Galvanised Hangers Brackets, Suitable Sized Threaded Rods, Raw bolts/Clamps				
to Carry the Weight of the Indoor and Outdoor Units as per Manufactures				
Specification. Suppliers: Mitsubishi, Dunham Bush, Carrier, York, Samsung,				
Trane, Daikin or equivalent.				
Transpolitin or equivalent.				
Design, manufacture, works testing, supply and deliver to site, moving into				
position, erection, connecting up, site testing, witness testing, providing to				
insurance inspectors, demonstrating to the Employer, commissioning and				
maintenance of the complete mechanical systems and equipment as shown on the				
drawings.				
AID CONDITIONING CVCTFM				
AIR CONDITIONING SYSTEM				
Design, manufacture, works testing, supply and deliver to site, moving into				
position, erection, connecting up, site testing, witness testing, proving to insurance				
inspectors, demonstrating to the Employer, commissioning and maintenance of the				
complete mechanical systems and equipment as shown on the drawings and				
datasheets.				
autusinotis.				
BALANCE BROUGHT DOWN				
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	BALANCE BROUGHT FORWARD			
	Summary as follows:			
	Inverter driven air conditioning Heat Pump unit complete with no voltage relay.			
	Electrical connection from from local isolator with indoor fan coil units			
B1	FAN COIL UNIT (INDOOR UNITS)			
1	(AC 01) 28.0 kW Cooling, 31.5 kW heating Capacity fan coil unit 1200L/s c/w	No.	4	
,	humidifiers	IVO.	7	
B2	OUTDOOR UNITS			
	Supply and Install Outdoor Units complete with all necessary fittings to make a complete installation			
1	112.5 kW Cooling, 113.5 Heating out door condensor unit using R410A (ODU1)	No.	1	
	located outside on a plinth c/w no voltage protection system			
2	Unistrat for the Outdoor Units	No	2	
2	official for the Outdoor offices	NO	2	
B3	REFRIGERANT SUPPLY PIPE (R410A GAS)			
1	Diameter 9.52mm copper	m	88	
2	Diameter 15mm copper	m	55	
3	Diameter 19.05mm copper pipe	m	88	
4	Diameter 22mm copper pipe	m	50	
5	Diameter 28mm copper pipe	m	55	
4	Diameter 35mm copper pipe	m	120	
6		m	120	
7	Diameter 43mm copper pipe	m	135	
8	Y branch pipe for connection of outdoor units	Lot	2	
9	Y branch pipe for connection of indoor units	Lot	4	
			-	
B4	REFRIGERANT PIPE INSULATION			
1	Diameter 9.52mm copper	m	88	
2	Diameter 15mm copper	m	55	
3	Diameter 19mm copper pipe	m	88	
4	Diameter 22mm copper pipe	m	50	
5	Diameter 28mm copper pipe	m	55	
6	Diameter 35mm copper pipe	m	120	
7	Diameter 43mm copper pipe	m	135	
8	25mm PVC pipe for drainage	m	90	
9	Supply and Install HVAC Drain Pumps	No.	4	
	DALANGE PROJECT POWE			
	BALANCE BROUGHT DOWN			-

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	BALANCE BROUGHT FORWARD			-
B5	AIR CONDITIONING DUCTS AND ACCESSORIES INSULATED WITH FIBRE GLASS			
	Allow for ductwork as shown in the drawings			
	Suppy Air Ducts			
1	150mm Dia GMS duct	m	30	
2	200mm Dia GMS duct	m	30	
3	450*450 GMS duct	m	80	
4	300*300 GMS duct	m	20	
5	250*250 GMS duct	m	20	
6	1200*600 GMS duct	m	8	
7	Fresh Air Plenum to suit the 28kW FCU and Fresh Air Supply	No	4	
	Flexible Round Duct			
7	ø350mm Flexible Round duct.	m	10	
0	ø200mm Flexible Round duct.			
8		m	10	
	Accessories (Insulated)			
	DUCT REDUCERS			
9	From 450x450mm to 300x300mm	no	2	
10	From 300x300mm to 250x250mm	no	2	
	FAN DUCT CONNECTORS			
11	ø710mm x 1,5 m long duct	No.	2	
	<u>T-PIECES</u>			
12	450 x 450mm, 200dia., 450 x 450mm Duct	No.	4	
13	300 x 300mm, 150dia., 300 x 300mm Duct	No.	4	
13		NO.	4	
	ELBOWS			
14	150mm Dia GMS duct	No.	4	
15	200mm Dia GMS duct	No.	4	
16	450*450 GMS duct	No.	2	
17	300*300 GMS duct	No.	2	
18	1200*600 GMS duct	No.	4	
B6	AIR TERMINALS			
1	Spigot of diameter 250mm	No.	8	
2	Spigot of diameter 200mm	No.	8	
3	Spigot of diameter 150mm	No.	8	
	BALANCE BROUGHT DOWN			-

BALANCE BROUGHT FORWARD Supply and Install diffuser including spropris 4. Durbed I Insert Costant Air Viriame Air Grille 1200x00 at 1000 is to be 19 cs. 4 B7 PRESSURE CONTROL DAMPERS & ACCESSORIES 1. Pressure sensor: 140 Por for Friesh Air supply doct Damper de introlsy obtained: 480 x 40mm for Frost Air supply doct Damper de introlsy actuator: 300 x 300mm for Frost Air supply doct Damper de introlsy actuator: 300 x 300mm for Frost Air supply doct Damper de introlsy actuator: 300 x 300mm for Frost Air supply doct No. 2 Pressure sensor: 140 Por for Friesh Air supply doct Damper de introlsy actuator: 200 x 30mm for Frost Air supply doct No. 2 Damper de introlsy actuator: 2700 x 30mm for Frost Air supply doct No. 2 B8 Note: Supply and lestalli Fresh Air Fair System as Specified in the Drawing, Suspended from Stall or Shed Structure. Supports to Include all Calvanited Hanger Brockets, 10 mm Throaded Red, Raw botts/Clamps, etc. First, Friesh Air System 1. First, Friesh Air System 2. Supply and lestall send of the cort. The set dual cone day 2 sound attenuators. 2. Supply and lestall send afternutors to market his frost air for not market and attenuators to market his frost air for not market and attenuators to market his frost air for not market and attenuators to market his frost air for not for the first for not for first for not for the first for first for not for first or not for not for first for not for first for not for first for not for					
4 Ducted Linear Constant Air Volume Air Grille 1200s600 at 1000L/s. to be B7 PRESSURE CONTROL DAMPERS & ACCESSORIES 1 Pressure sensor: 140 Pa for Fresh Air supply auct Dampor div rotary actuator: 450 x 450mm for Fresh Air supply duct 2 Direction of the Volume of Fresh Air supply duct 3 Pressure sensor: 140 Pa for Fresh Air supply duct 4 Direction of the Volume of State Air Supply duct 5 Direction of the Volume of State Air Supply duct 6 Direction of the Volume of State Air Supply duct 7 Direction of the Volume of State Air Supply duct 8 No. 2 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of the Volume of State Air Supply duct 9 Direction of State Air Supplies of State Structure. Supports to Include all Calvanised Hange Brackets, 10 mm Threaded Rod, Raw bolls/Clamps, etc. 9 Parts, Fresh Air Supplies 1 Part, Inline, 9710, Compiles Willi Sound Alternation Faled NC 400 US and all Page Processory Ritings and accessories for a complete installation. Fan shall be vended proof and mounted on the rot. The volume of State Air Supplies and accessories for a complete for a Supplies and Air Supplies and State Bed State Air Supplies and accessories for a complete for and state Bed State Air Supplies and State Bed State Air Supplies and State Bed State Air Supplies Ink. 9 Direction Controller Air Controllers Shall be wired and shall be digital. The controller shall be able to switch on the AC system together will firesh air for the four FCUs. 9 Direction Controller Air Controllers Shall be wired and shall be digital. The controller shall be able to switch on the AC system together will firesh air for the four		BALANCE BROUGHT FORWARD			-
4 Ducted Linear Constant Ar Volume for Grille 1200x600 at 10000.ts. to be 87 PRESSURE CONTROL DAMPERS & ACCESSORIES 1 Pressure sensor: 140 Pe for Fresh Ar supply duct 2 Dampor civo rotary actuator: 450 x 450mm for Fresh Ar supply duct 2 Dampor civo rotary actuator: 350 x 450mm for Fresh Ar supply duct 3 Pressure sensor: 140 Pe for Fresh Ar supply duct 4 Dampor civo rotary actuator: 250 x 250mm for Fresh Ar supply duct 5 Dampor civo rotary actuator: 250 x 250mm for Fresh Ar supply duct 6 Dampor civo rotary actuator: 250 x 250mm for Fresh Ar supply duct 8 No. 2 Dampor civo rotary actuator: 250 x 250mm for Fresh Ar supply duct 8 Note: Supply and install Fresh Air Fan System as Specificate all Calvanised Hanger Brackets, 10 mm Threaded Rod. Raw bottls/Clamps, etc. 8 Fans, Fresh Ar System 1 Fast, Inline, 9710, Complete Willi Sound Attenuator Rodo NC 600 US and all nocessary fittings and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be vanial proof and maximal and accessories for a complete installation. Fan shall be digital. The controller shall be able to switch on the AC system together with fresh air for the four FCUs. 8 First fourth controller. All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with fresh air for the four FCUs. 8 First fourth controller. All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with fresh air for the four FCUs. 9 First DAMPERS 1 Signal Area and maximal accessories for index and conduction at conditioning units including able					
PRESSURE CONTROL DAMPERS & ACCESSORIES 1 Pressure servor: 140 Par for Fresh Mr supply duct Damper of windary actualer: 450 x 450mm for Fresh Mr supply duct 2 Demper of windary actualer: 350 x 450mm for Fresh Mr supply duct 3 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 3 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 4 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 5 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 6 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 7 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 8 Note: Supply and Install Fresh Air Fan System as Specified in the Drawing. 8 Suppended from Stato or Seed Shructure. Supports to include all Galvanised Hanger Brackets, 10 mm Threaded Rod, Row boths/Clamps, etc. 8 Fans. Fresh Air System 8 Fan. Inline, 07110. Compiled With Sound Attenuator Rated NC 600 US and all necessary fillings and accessories for a compiled with solution. Fan shall be varied and proof and mounted on the roof. The set shall come of a 2 sound alternators 9 Supply and install sound attenuators to match the fresh air fan. 1 Weather Lower. 1200/600, Natural Annodised Aluminium, with Vermin Proof Mesh. 2 Supply and install sound attenuators to match the fresh air fan. 1 Smart Touch controller: All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with Fresh air fans for the four FCUs. 8 FIRE DAMPERS 1 Sound Sound microl france and made of steel with a fiseable link. 2 Sound soon microl france and made of steel with a fiseable link. 3 Sound soon microl france and made of steel with a fiseable link. 4 Sound soon microl france and made of steel with a fiseable link. 5 Sound soon microl france and made of steel with a fiseable link. 5 Sound soon microl france and made of steel with a fiseable link. 6 Sound soon microl france and made of steel with a fiseable link. 7 Sound soon microl france and made of steel with a fisea		Supply and Install diffuser including spigots			
PRESSURE CONTROL DAMPERS & ACCESSORIES 1 Pressure servor: 140 Par for Fresh Mr supply duct Damper of windary actualer: 450 x 450mm for Fresh Mr supply duct 2 Demper of windary actualer: 350 x 450mm for Fresh Mr supply duct 3 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 3 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 4 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 5 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 6 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 7 Demper of windary actualer: 300 x 350mm for Fresh Mr supply duct 8 Note: Supply and Install Fresh Air Fan System as Specified in the Drawing. 8 Suppended from Stato or Seed Shructure. Supports to include all Galvanised Hanger Brackets, 10 mm Threaded Rod, Row boths/Clamps, etc. 8 Fans. Fresh Air System 8 Fan. Inline, 07110. Compiled With Sound Attenuator Rated NC 600 US and all necessary fillings and accessories for a compiled with solution. Fan shall be varied and proof and mounted on the roof. The set shall come of a 2 sound alternators 9 Supply and install sound attenuators to match the fresh air fan. 1 Weather Lower. 1200/600, Natural Annodised Aluminium, with Vermin Proof Mesh. 2 Supply and install sound attenuators to match the fresh air fan. 1 Smart Touch controller: All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with Fresh air fans for the four FCUs. 8 FIRE DAMPERS 1 Sound Sound microl france and made of steel with a fiseable link. 2 Sound soon microl france and made of steel with a fiseable link. 3 Sound soon microl france and made of steel with a fiseable link. 4 Sound soon microl france and made of steel with a fiseable link. 5 Sound soon microl france and made of steel with a fiseable link. 5 Sound soon microl france and made of steel with a fiseable link. 6 Sound soon microl france and made of steel with a fiseable link. 7 Sound soon microl france and made of steel with a fisea	4	Ducted Linear Constant Air Volume Air Grille 1200x600 at 1000L/s to be	No	4	
1 Pressure sensor: 1 40 Pa for Fresh Air supply duct Damper cive rotary actuator: 450 x 450 mm for Fresh Air supply duct 2 Pressure sensor: 1 40 Pa for Fresh Air supply duct Damper cive rotary actuator: 300 x 300 mm for Fresh Air supply duct 3 Pressure sensor: 1 40 Pa for Fresh Air supply duct Damper cive rotary actuator: 300 x 300 mm for Fresh Air supply duct 8 No. 2 Damper cive rotary actuator: 300 x 300 mm for Fresh Air supply duct Damper cive rotary actuator: 250 x 250 mm for Fresh Air supply duct 8 Note: Supply and Install Fresh Air Fan System as Specified in the Drawing, Suspended from Slab or Steel Structure. Supports to Include all Galvanised Hanger Brackets, 10 mm Threaded Rod, Raw boits/Clamps, etc. Fans, Fresh Air System 1 Fan, Initine, 6710. Complete With Sound Afterwator Rated Nc 600 L/S and at necessary fittings and accessories for a complete installation. Fan shall be vanish coord and mounted on the roof. The set shall come cive 2 sound attenuators 2 Supply and Install sound attenuators to match the fresh air fan 3 Weather Louvie, 1200x800, Natural Anadssed Aluminium, with Veterin Proof Misch 1 Smart touch controller: All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with fresh air fan 1 Smart touch controller: All controllers shall be wired and shall be digital. The controller shall be able to switch on the AC system together with fresh air fans to the four FCUs. B10 FIRE DAMPERS 1 So 30 x 300 mm c/w frame and made of steel with a fuscable link 2 Supply and install steel conduits of steel with a fuscable link No 2 2 Supply and install steel conduits 2 steel with a fuscable link 1 Electrical installation & wiring etc. complete for indoor and outdoor air coonditioning units including local sterioriscolater switch through all trusking and writing channels also for the mentacinal equipment.	7	Ducted Linear Constant Air Volume Air Chine 1200,000 at 1000E3. to be	140.	7	
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3 Supply and install electric cables and conduits for wired controllers 4 Supply and install steel conduits 32mm m 40		cnannels also for the mechanical equipment			
3 Supply and install electric cables and conduits for wired controllers 4 Supply and install steel conduits 32mm m 40	2	Supply and Install 3 phase isolator c/w cables for the out door unit	No.	1	
4 Supply and install steel conduits 32mm m 40					
	3	Supply and install electric cables and conduits for wired controllers	Sum	4	
	Л	Supply and install steel conduits 32mm	m	40	
BALANCE BROUGHT DOWN -	-	συρρη απα matan atoor controlled 32mm	111	40	
BALANCE BROUGHT DOWN -				<u> </u>	
		BALANCE BROUGHT DOWN			-

	BALANCE BROUGHT FORWARD				-
4	Supply and Install electric cables for all the HVAC indoor and out door units	Sum	4		
5	Upgrading of the HVAC distribution board to match the new system	Item	1		
B12	CABLE TRAY AND SUPPORTS				
1	Supply and Install Cable tray, approximately sized to support refrigerant pipes, inter connecting power cables and control cables, suspended from slab or steel structure. Supporters to include all galvanised hanger brackets, 10mm threaded rod, raw bolts/clamps, etc.	m	100		
B13	BUILDERS WORK				
1	Allow for sealing off air gaps in the Gallery Hall (Allow for one hundred & Fifty Thousa	PSum	1	150 000.00	150 000.00
2	Allow for making good of walls and painting in affected areas to suite the internal	PSum	1	85 000.00	85 000.00
3	Supply and install 2400 x 2400 x 300(h) Plinth for out door unit	Sum	1		
4	Supply and install 150x150 Steel trunking for Out door Unit to inside of the building. Trunking to be installed passing a concrete walkway and painted to match the existing steps	m	15		
5	Supply and install 3000 x 3000 x 1500(H) Steel cage for outdoor unit c/w with all necessary fittings to make a complete installation.	Item	1		
B14	CONTROLS				
1	Allow for the control system intergrating the HVAC system control system including the fresh air fans.	Item	1		
B15	PROJECT ENGINEERING AND QUALITY MANAGEMENT				
1	Testing, balancing, commissioning and handover of air conditioning units and fans including compilation of submitted to the Engineer for approval.				
2	Operation and Maintenance Instruction Manuals	set	4		
3	User Training	Item	1		
4	Sets of "as built' drawings "including 1 cd"	No.	6		
4	Production of shopfloor drawings and submission to engineer for approval showing sections	Item	1		
5	12 Months free maintenance	item	1		
6	Issuing of COC by a registered personal	Item	1		
7	Provision of a maintenance control plan	Item	1		
B16	TEST & COMMISSION				
1	Test and Commission the Entire Air conditioning system	Item	1		
2	Ditto but in the presence of and to the entire satisfaction of the Consulting Engineer.	Item	1		
В	TOTAL CARRIED FORWARD TO SUMMARY PAGE			R	

CLIENT: FREEDOM PARK

PROJECT: SUPPLY AND INSTALL NEW HVAC SYSTEM FOR GALAERY OF LEADERS AT

FREEDOM PARK
CONTRACT: MECHANICAL SERVICES - HVAC

Item No.	Description	AMOUNT
	FINAL SUMMARY PAGE	
	PRELIMINARIES AND GENERAL CONDITIONS OF THE CONTRACT	
Α	TOTAL BROUGHT FORWARD FROM Ps and Gs	-
	MAIN BUILDING MECHANICAL SERVICES INSTALLATION	
В	TOTAL BROUGHT FORWARD FROM HVAC	-
	SUB TOTAL	-
	ADD 10 % CONTIGENCIES	-
	SUB TOTAL (EXCL VAT)	-
	ADD 15% VAT	-
	TOTAL TENDER VALUE OFFERED	=