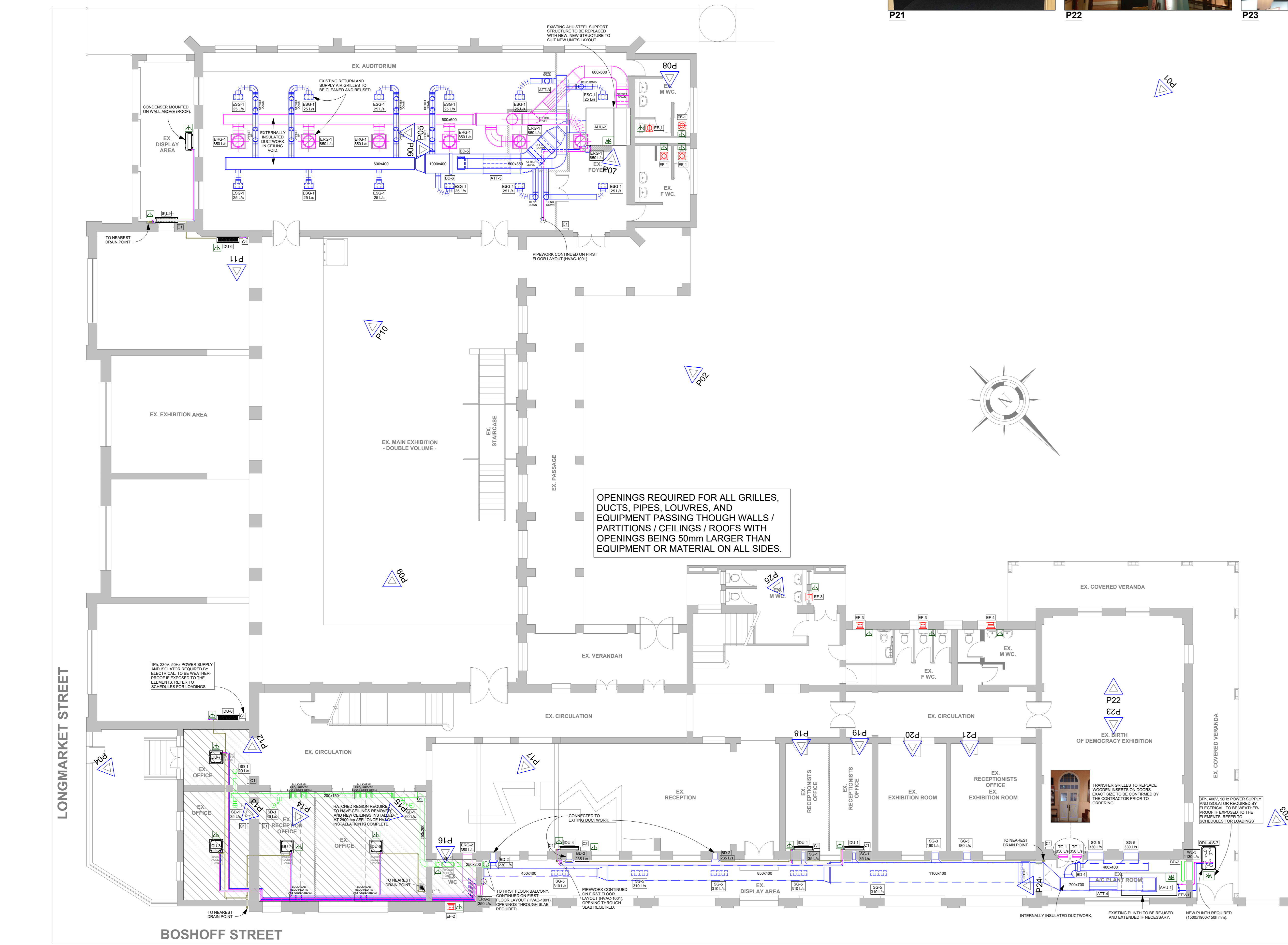


LIST OF REVISIONS			
NO.	DATE	DESCRIPTION	BY
10	19/09/22	Issued for Information	SG
11	26/09/22	Issued for Information / Approval	SG
12	04/10/22	Issued for AMFA Submission	SG

COLOUR LEGEND	
—	AC SUPPLY AIR / LIQUID PIPING
—	RETURN AIR / GAS PIPING
—	EXTRACT AIR
—	FRESH AIR
—	CONDENSATE DRAINAGE

ELECTRICAL LEGEND	
	1PH POWER SUPPLY AND ISOLATOR. TO BE WEATHER PROOF IF EXPOSED TO THE ELEMENTS. REQUIREMENTS AS PER EQUIPMENT SCHEDULES.
	3PH POWER SUPPLY AND ISOLATOR. TO BE WEATHER PROOF IF EXPOSED TO THE ELEMENTS. REQUIREMENTS AS PER EQUIPMENT SCHEDULES.

- NOTES:**
- ALL FRESH AIR & EXTRACT AIR HANDLING UNITS TO BE CONNECTED TO THE FIRE SIGNAL AND AUTOMATICALLY SHUT DOWN IN THE EVENT OF A FIRE.
 - ALL INDEPENDENT VENTILATION FANS (EXTRACT AND FRESH AIR) TO BE CONNECTED VIA TRIPLES. TRIPLES TO BE CONFIRMED BY ENGINEER PRIOR TO SETTING.
 - ALL DUCTING SIZES SHOWN ARE SHEET METAL SIZES. DUCTING TO BE MANUFACTURED ACCORDING TO AMCA/SMACNA STANDARDS. ALL DUCTWORK TO BE EXTERNALLY INSULATED WITH 15MM THERMAFLEX WITH 15MM SONIC LINER (AS INDICATED). FRESH AIR AND EXTRACT AIR DUCTWORK TO BE UNINSULATED. ALL EXPOSED DUCTWORK AND DIFFUSION PRODUCTS TO BE PAINTED TO ARCHITECT'S APPROVAL.
 - ALL AC DUCTWORK (SUPPLY & RETURN) TO BE EXTERNALLY INSULATED WITH 15MM THERMAFLEX WITH 15MM SONIC LINER (AS INDICATED). FRESH AIR AND EXTRACT AIR DUCTWORK TO BE UNINSULATED. ALL EXPOSED DUCTWORK AND DIFFUSION PRODUCTS TO BE PAINTED TO ARCHITECT'S APPROVAL.
 - ALL HANGERS AND BRACKETS TO BE GALVANNEED. ALL DUCTWORK TO BE HUNG ON SCHEDULE 8 S & M CHANNEL TRAPEZE HANGERS WITH #8 RODS. RODS ARE TO BE CUT SHORT BEYOND THE DUCT HANGER TO PREVENT DAMAGE TO THE CEILING TILES WHEN LIFTED. THE ENDS ARE TO BE COIL GALVANNEED.
 - ALL GRILLES AND SUPPLY AIR DIFFUSERS ARE TO BE SILENT FINNIX.
 - ALL WEATHER LOUVRES SHALL HAVE COUNTERSUNK FRAMES AND PHILLIPS HEAD COUNTERSUNK SCREWS. THE MAXIMUM LENGTH OF FLEXIBLE DUCTING IS TO BE 10M.
 - ALL PIPEWORK CONNECTIONS TO EQUIPMENT MUST BE WITH FLANGES.
 - REFRIGERANT PIPES MUST BE INSULATED WITH 15MM THERMAFLEX INSULATION TAPE (AS INDICATED). ALL DRAIN PIPING TO BE THERMAFLEX INSULATED TO PREVENT CONDENSATION. ALL DRAIN PIPES TO HAVE A TRAP BEFORE CONNECTING TO THE VENT STACK PIPES BY HVAC CONTRACTOR.
 - ALL ROUTING AND DIMENSIONS TO BE CONFIRMED TO THE NEAREST DRAIN POINT. MAIN PIPE LINE TO BE 60mm WITH 60mm CONNECTION TO THE INDIVIDUAL ROOM UNITS. ALL PIPING TO HAVE A FALL OF 1:80. ALL DRAIN PIPING TO BE THERMAFLEX INSULATED TO PREVENT CONDENSATION. ALL DRAIN PIPES TO HAVE A TRAP BEFORE CONNECTING TO THE VENT STACK PIPES BY HVAC CONTRACTOR.
 - ALL MECHANICAL EQUIPMENT TO HAVE POWER SUPPLIES AND ELECTRICAL TERMINALS AWAY FROM EQUIPMENT ELECTRICAL TERMINALS. ALL ANY ROTATOR EXPOSED TO THE ELEMENTS MUST BE WEATHERPROOF. REFER TO SCHEDULES FOR RUNNING LOADS.



OPENINGS REQUIRED FOR ALL GRILLES, DUCTS, PIPES, LOUVRES, AND EQUIPMENT PASSING THROUGH WALLS / PARTITIONS / CEILINGS / ROOFS WITH OPENINGS BEING 50mm LARGER THAN EQUIPMENT OR MATERIAL ON ALL SIDES.

AC & FAN SCHEDULE (G)										
REF. NO.	DESCRIPTION	MODEL	COOLING CAPACITY	AIR FLOW	ESP	WEIGHT	RATED CURRENT	MOUNTING POSITION		
ODU-4	1 LG MULTI VSD VRF OUTDOOR UNIT - HEAT PUMP	ARUM20L2ES	56 kW	-	-	330 kg	3PH, 400V, 50Hz, 49A	ROOF - SUPPORT REQUIRED / BALCONY - PLINTH REQUIRED		
IDU-1	2 LG MULTI VSD VRF INDOOR UNIT - MID-WALL	ARNUNJGSUM	2.2 kW	-	-	10 kg	1PH, 230V, 50Hz, 0.2A	WALL		
IDU-4	1 LG MULTI VSD VRF INDOOR UNIT - MID-WALL	ARNUNJBSMWA	5.8 kW	-	-	15 kg	1PH, 230V, 50Hz, 0.2A	WALL		
IDU-4	1 LG MULTI VSD VRF INDOOR UNIT - MID-WALL	ARNUNJBSMVA	10.4 kW	-	-	20 kg	1PH, 230V, 50Hz, 0.4A	WALL		
IDU-7	2 LG MULTI VSD VRF INDOOR UNIT - CEILING CASSETTE	ARNUNJGTRCA	2.2 kW	-	-	15 kg	1PH, 230V, 50Hz, 0.1A	SOFFIT / TRUSS		
IDU-8	1 LG MULTI VSD VRF INDOOR UNIT - CEILING CASSETTE	ARNUNJGTRCA	2.8 kW	-	-	15 kg	1PH, 230V, 50Hz, 0.1A	SOFFIT / TRUSS		
IDU-9	1 LG MULTI VSD VRF INDOOR UNIT - CEILING CASSETTE	ARNUNJGTRCA	4.5 kW	-	-	20 kg	1PH, 230V, 50Hz, 0.2A	SOFFIT / TRUSS		
AMH-1	1 AIR HANDLING UNIT - VERTICAL	-	59.2 kW	3320 l/s	250 Pa	800 kg	3PH, 400V, 50Hz, 10A	CEILING VOID - SUPPORT REQUIRED		
AMH-2	1 AIR HANDLING UNIT - HORIZONTAL	-	61.6 kW	3000 l/s	250 Pa	800 kg	3PH, 400V, 50Hz, 10A	CEILING VOID - SUPPORT REQUIRED		
EEV-1	1 LG MULTI VSD VRF ELECTRONIC EXPANSION VALVE	PRLK090AD	56.3 kW	-	-	10 kg	-	ON UNIT		
EEV-2	1 LG MULTI VSD VRF ELECTRONIC EXPANSION VALVE	PRLK090AD	112.5 kW	-	-	10 kg	-	ON UNIT		
SLU-2	1 SPLIT UNIT - MID-WALL	M33MWA	9.8 kW	-	-	75 kg (240) + 20 kg (100)	1PH, 230V, 50Hz, 17A	WALL / TRUSS		
SF-1	1 'SYSTEMAIR' SUPPLY AIR FAN - CIRCULAR IN-LINE FAN	Pip Sireh XP 150EC	-	90-145 l/s	200 Pa	-	-	SOFFIT / TRUSS		
EF-1	4 'XPELAIR' CEILING MOUNTED EXTRACTOR FAN	PX9	-	333 l/s	-	5 kg	1PH, 230V, 50Hz, 0.2A	CEILING		
EF-2	1 'XPELAIR' WINDOW MOUNTED EXTRACTOR FAN	GX9	-	148 l/s	-	5 kg	1PH, 230V, 50Hz, 0.2A	WINDOW		
EF-3	3 'XPELAIR' WINDOW MOUNTED EXTRACTOR FAN	GX9	-	171 l/s	-	5 kg	1PH, 230V, 50Hz, 0.2A	WINDOW		
EF-4	1 'XPELAIR' WINDOW MOUNTED EXTRACTOR FAN	GX12	-	303 l/s	-	10 kg	1PH, 230V, 50Hz, 0.4A	WINDOW		

AIR DISTRIBUTION EQUIPMENT SCHEDULE (G)					
REF. NO.	DESCRIPTION	SIZE	MODEL	AT	COMMENTS
SG-1	2 'TROX' SUPPLY, DOUBLE DEFLECTION GRILLE CW PLENUM & O.B.D.	200x200	AT		
SG-2	2 'TROX' SUPPLY, DOUBLE DEFLECTION GRILLE CW PLENUM & O.B.D.	400x250	AT		
SG-5	7 'TROX' SUPPLY, DOUBLE DEFLECTION GRILLE CW PLENUM & O.B.D.	800x250	AT		
SG-1	4 'TROX' FRESH AIR DISC VALVE	200A	Z-LVS-200	3200mm SPOG/DUCT/FLEX	
TG-1	2 DOUBLE SIDED ACOUSTIC TRANSFER GRILLE	500x1000	AWR		SIZE TO BE CONFIRMED ON SITE
WL-3	1 ALUMINIUM WEATHER LOUVRE CW W.M.S.	1000x1000	AWR		
ERG-1	12 EXISTING SUPPLY GRILLE. TO BE CLEANED AND RE-USED.	400x250	AT		3200mm SPOG/DUCT/FLEX
ERG-1	8 EXISTING RETURN GRILLE. TO BE CLEANED AND RE-USED.	700x700	AT		3200mm SPOG/DUCT/FLEX
ERG-2	2 EXISTING RETURN GRILLE. TO BE CLEANED AND RE-USED.	500x1000	AT		3200mm SPOG/DUCT/FLEX

DUCT ACCESSORY SCHEDULE (G)		
REF. NO.	DESCRIPTION	SIZE
ATT-3	1 RECTANGULAR SOUND ATTENUATOR	600x500x1500L
ATT-4	1 RECTANGULAR SOUND ATTENUATOR	700x700x1500L
ATT-5	1 RECTANGULAR SOUND ATTENUATOR	1000x1000x1500L
BD-2	3 BALANCING DAMPER	300x250 (T)
BD-4	1 BALANCING DAMPER	400x400
BD-5	1 BALANCING DAMPER	500x350
BD-6	1 BALANCING DAMPER	1000x400
BD-7	1 BALANCING DAMPER	1000x1000

CONTROLLER SCHEDULE (G)		
REF. NO.	DESCRIPTION	SIZE
C1	12 LG STANDARD WALL CONTROLLER	
C2	1 LG CENTRAL CONTROLLER - POWER SUPPLY WITH ISOLATOR REQUIRED. 1PH, 0.1A	

1 Ground Floor
1 : 100

CONSULTANT INFORMATION

LSG CONSULTING ENGINEERS INC.
 Consulting Engineers & Surveyors
 275 Long Street, 3rd Floor, Durban
 Durban, 4001

DESIGN INFORMATION

DRAWN: PL DESIGNED: SG CHECKED: GG DATE: 08/25/22

CLIENT INFORMATION

CLIENT NAME: Msunduzi Museum

PROJECT INFORMATION

PROJECT DESCRIPTION: Building / HVAC Upgrade
 PROJECT NAME: Msunduzi Complex Main Museum
 ADDRESS: 351 Langalibalele St, Pietermaritzburg
 SITE DESCRIPTION: Museum

DRAWING INFORMATION

DRAWING TITLE: HVAC Layout - Ground Floor
 DRAWING SCALE: As indicated SHEET SIZE: A0
 DRAWING NUMBER: LSG-2204-HVAC-100 REVISION: 12