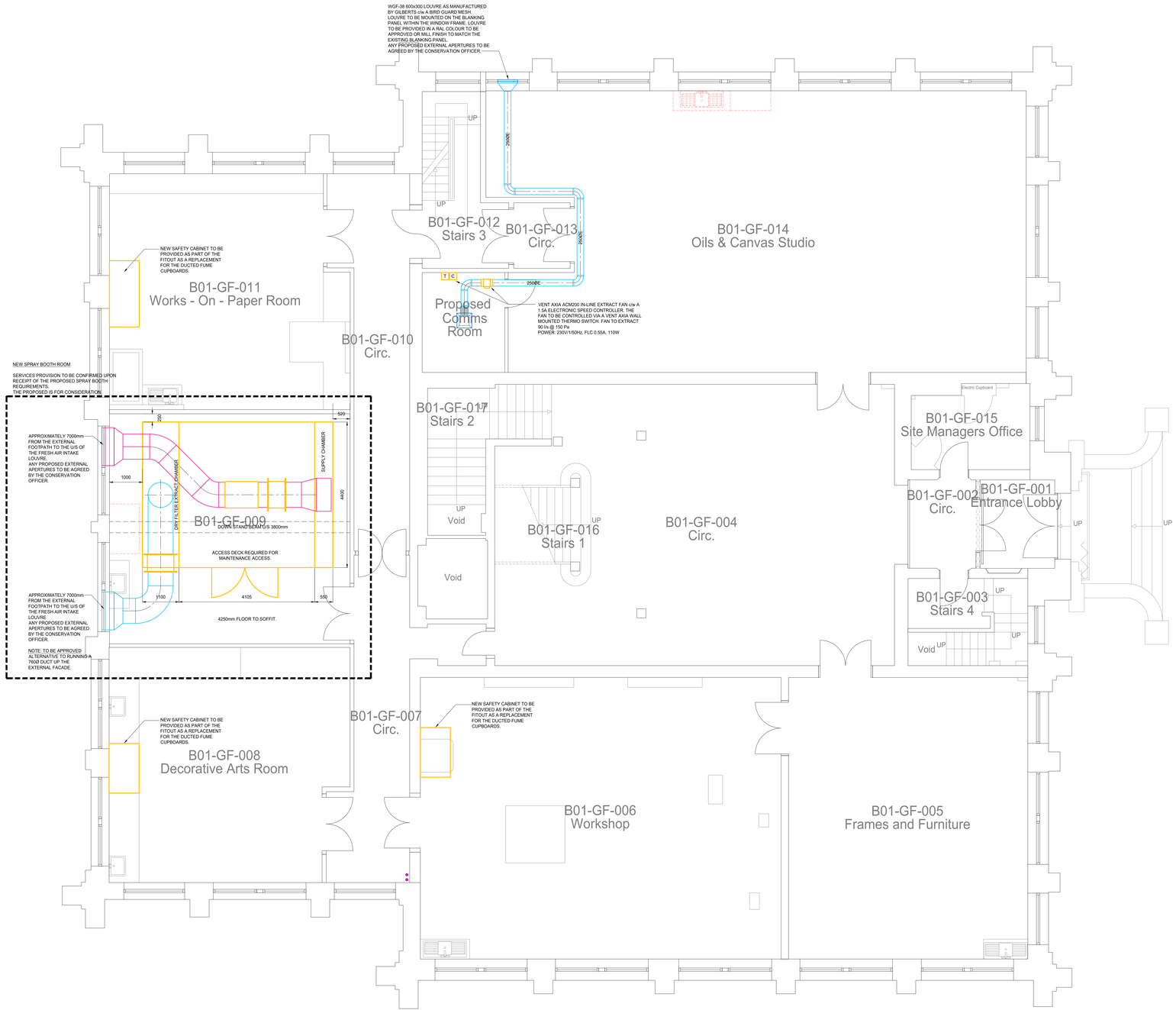
EXTRACT GRILLE SCHEDULE														
GRILLE REF	QUANTITY	MANUFACTURER	TYPE	MAX ROOM NR	FLOW (l/s)	SPIGOT VELOCITY m/s	THROW 0.25m/s-0.5m/s (m)	DUCT CONN SIZE (mmØ)	MOUNTING HEIGHT (m)	OVERALL DIMENSIONS (mm)	STATIC PRESSURE (Pa)	SOUND LEVEL (dBA)	DAMPER	NOTES	COMMENTS
E101	1	GILBERTS	EGG CRATE	40	90	1.85	N/A	250	TBC	594x594	-	<25 dB (A)	N	GEC/600x600/SEB/250	RAL 9010

1. ALL PLENUM BOXES ARE TO BE PROVIDED WITH SIDE ENTRY PLENUM BOXES WHERE SEB IS IDENTIFIED
2. WHERE THE GRILLE REFERENCE INCLUDES THE REFERENCE RH, THE PLENUM BOX REQUIRES A REDUCED HEIGHT
3. ALL PLENUM BOXES TO BE PROVIDED WITH ACOUSTIC LINING WHERE REFERENCE ATI IS IDENTIFIED
4. ALL PLENUM BOXES ARE TO BE PROVIDED WITH TOP ENTRY PLENUM BOXES WHERE TCB IS IDENTIFIED
5. ALL PLENUM BOXES ARE TO BE PROVIDED WITH A MOISTURE RESISTANT INTERNAL LINING WHERE SW IS IDENTIFIED
6. WHERE THE REFERENCE NSC IS IDENTIFIED A NONE SIGHT COWL IS REQUIRED OVER THE GRILLE APPOSED TO A PLENUM BOX
7. THE GRILLE SELECTIONS ARE TO BE CONFIRMED PRIOR TO ORDER AND CO-ORDINATED WITH THE PROPOSED CEILING GRID
8. ALL GRILLE SELECTIONS ARE BASED ON GILBERTS BLACKPOOL



Ground Floor

0 — 100
This drawing may have been reduced — original scale : 100mm

Reference Drawings | Legend | Notes

VENTILATION STANDARD NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE OTHER SERVICES LAYOUT DRAWINGS, SPECIFICATIONS, SCHEMATICS, EQUIPMENT SCHEDULES AND ARCHITECTURAL AND STRUCTURAL INFORMATION.

PREPARE FABRICATION DRAWINGS AND CARRY OUT FABRICATION OF DUCTWORK IN ACCORDANCE WITH DW 144 AND DW 154 AS APPROPRIATE.

SIZES OF DUCTWORK ARE INTERNAL DIMENSIONS. WHERE APPLICABLE MAKE ALLOWANCE FOR ANY INTERNAL LINING.

USE A MEMBER OF THE HVCA SPECIALISING IN THE TRADE OF MANUFACTURING AND INSTALLING DUCTWORK.

SUPPLY DUCTWORK IN ACCORDANCE WITH CLASSIFICATION IN DW 144 TABLE 1

PLANT CONNECTIONS: MAKE CONNECTION BETWEEN AIR HANDLING ASSEMBLY AND DUCTWORK SYSTEM IN ACCORDANCE WITH DW 144.

FLANGED CONNECTIONS: PROVIDE BOLTED FLANGED JOINTS FOR CONNECTING DUCTWORK TO FLANGED ITEMS OF PLANT, BUILDER'S WORK FRAMES AND WHERE REMOVABLE SECTIONS OF DUCTWORK ARE REQUIRED.

INSTALL DUCTWORK IN ACCORDANCE WITH DW 144, AND DW 154 AS APPROPRIATE, ENSURE THAT THERE ARE NO SHARP EDGES OR CORNERS ON CUT EDGES ON DUCTWORK, FLANGES AND SUPPORTS. ARRANGE DUCTWORK TO DRAIN ANY ENTRAINED MOISTURE AND ENSURE THE LAPPING OF JOINTS MINIMISES MOISTURE LEAKAGE.

CONNECTION TO BUILDER'S WORK: COMPLY WITH DW 144 PART 7 SECTION 28.

SPACE SUPPORTS IN ACCORDANCE WITH DW 144 PART 6 OR DW 154 PART 5 AS APPROPRIATE.

INTERNAL CLEANLINESS: PROVIDE THE LEVEL OF CLEANLINESS AND PROTECTION AS DEFINED IN HVCA DOCUMENT DW/TM2.

DUCTWORK CLEANING PROVISIONS: ENSURE THAT THE ENTIRE DUCTWORK SYSTEM INCLUDING ALL EQUIPMENT BE CLEANED OUT PRIOR TO COMMISSIONING IN LINE WITH THE HVCA GUIDE TO GOOD PRACTICE: INTERNAL CLEANLINESS OF DUCTWORK SYSTEMS TW18. ALL OPEN ENDS OF DUCTWORK SHALL BE PROTECTED DURING THE INSTALLATION FROM THE INGRESS OF DIRT AND DEBRIS.

WEATHERPROOFING TO DUCTWORK WITH TRIMMING ANGLE AND WEATHER CRAVAT, BAFT, FLASHING PLATE AND CONS, WHERE DUCTWORK PASSES THROUGH OR TERMINATES IN ROOF. TO ENSURE A WEATHERPROOF SEAL TO BUILDING STRUCTURE.

ENCLOSE DUCTS PASSING THROUGH BUILDING ELEMENTS, (WALLS, FLOORS, PARTITIONS, ETC.) WITHIN PURPOSE MADE SLEEVES. CUT SLEEVES OF THE SAME MATERIAL AS THE DUCT AND PACK WITH MINERAL FIBRE OR SIMILAR NON-FLAMMABLE AND FIRE RESISTANT MATERIAL TO FORM A FIRE/SMOKE STOP OF ADEQUATE RATING AND TO PREVENT AIR MOVEMENT AND NOISE TRANSMISSION BETWEEN DUCT AND SLEEVE.

PLENUM BOXES: PROVIDE ALL GRILLES AND DIFFUSERS WITH PLENUM BOXES AND SPIGOT CONNECTIONS, UNLESS IDENTIFIED OTHERWISE ON THE EQUIPMENT SCHEDULES. LINE PLENUM BOXES WITH ACOUSTIC LINING (PREFERRED COLOUR OF INSIDE OF GRILLES AND PLENUMS IS BLACK). COVER FULL WIDTH OR DEPTH OF PLENUM BOX AND EXTEND BEYOND EACH SIDE OF THE AIR INLET TO ENSURE EVEN AIR DISTRIBUTION. POSITION CENTRALLY RELATIVE TO PLENUM BOX AIR INLET.

INSTALLATION WHERE INSULATION IS CARRIED THROUGH DUCTWORK SUPPORT - PROVIDE INSULATION BETWEEN DUCT AND SUPPORT USING HIGH DENSITY PHENOLIC FOAM STRIPS. BUTT INSULATION TO SPACER AND CARRY OVER FINISH BY 40MM AND TAPE JOINT. PROVIDE A SHEET METAL PROTECTING SLEEVE. LOAD BEARING MATERIALS MUST HAVE A SUITABLE COMPRESSIVE STRENGTH FOR THE APPLIED LOAD.

INTEGRITY OF VAPOUR BARRIERS: WHERE A VAPOUR BARRIER IS INDICATED ENSURE ITS INTEGRITY THROUGHOUT. REPAIR IMMEDIATELY ANY DAMAGE TO VAPOUR BARRIERS AND WHERE SUCH BARRIERS HAVE BEEN APPLIED OFF SITE, REPAIR TO MANUFACTURER'S INSTRUCTIONS. WHERE ALUMINIUM SHEETING IS USED FOR PROTECTION, SUBMIT PROPOSALS FOR SECURING SHEETING WITHOUT IMPAIRING THE INTEGRITY OF THE VAPOUR SEAL FOR APPROVAL.

EXTERNAL DUCTWORK AND PLANTROOM INSULATION FINISHES: UNLESS NOTED OTHERWISE WITHIN PLANTROOMS AND TO ANY PIPEWORK AND DUCTWORK SERVICES INSTALLED EXTERNALLY TO THE BUILDING ARE TO BE FULLY INSULATED TO THE CORRECT STANDARD AND BE PROVIDED WITH FLAT (EMBOSSED) OR PROFILED ALUMINIUM CLADDING APPLIED DIRECTLY TO INSULATING MATERIAL. THICKNESS 0.71MM ON ALL PIPEWORK AND DUCTWORK AS A PROTECTIVE COVERING.

PROVISION OF ACCESS DOORS: ACCESS DOORS AND CLEANING DOORS SHALL BE PROVIDED TO THE DUCTWORK SYSTEM FOR INSPECTION, SERVICING AND CLEANING ACCESS. THE LOCATION OF DUCTWORK ACCESS DOORS SHALL BE SO THAT THEY ARE READILY ACCESSIBLE.

FLEXIBLE DUCTS: SUPPLY AND FASTEN FLEXIBLE DUCT CONNECTIONS AS DW 144 PART 7 SECTION 25. USE FLEXIBLE DUCT CONNECTIONS IN APPLICATIONS LISTED IN DW 144 PARAGRAPH 25.1. THEY SHALL BE USED IN THE FOLLOWING APPLICATIONS UNLESS SPECIFIED OTHERWISE:-

a) CONNECTING TERMINAL UNITS
b) ANY EQUIPMENT SUBJECT TO MOVEMENT AND VIBRATION
c) GRILLES AND DIFFUSERS
e) PLENUM BOXES

THE FLEXIBLE DUCT CONNECTIONS SHALL BE INSTALLED IN STRAIGHT LENGTHS ONLY AND NOT BE USED IN REPLACEMENT OF A RIGID BEND. THEY SHALL BE KEPT TO A MINIMUM AND SHALL NOT EXCEED 500mm IN LENGTH.

PROVIDE TEST HOLES IN DUCTWORK SYSTEM TO ALLOW COMPLETE TESTING AND BALANCING OF SYSTEM IN ACCORDANCE WITH CIBSE COMMISSIONING CODE A.

PROVIDE HOLES IN METAL DUCTWORK, IN ACCORDANCE WITH DW 144 PART 7, PARAGRAPH 20.7, TO ACCOMMODATE THERMOSTATS, HUMIDISTATS AND OTHER CONTROL SENSORS IN POSITIONS AND SIZES.

COMMISSIONING: CARRY OUT COMMISSIONING OF INSTALLATIONS IN ACCORDANCE WITH THE PROCEDURES, CHECKS AND TOLERANCES GIVEN IN THE BSRIA APPLICATION GUIDE FOR AIR SYSTEMS TO ACHIEVE THE STANDARDS SET IN THE CIBSE COMMISSIONING CODES. CARRY OUT CHECKS AND PROCEDURES AS DETAILED IN CIBSE COMMISSIONING CODE A, SECTION A1: SET TO WORK AND REGULATE AIR DISTRIBUTION SYSTEMS IN ACCORDANCE WITH CIBSE COMMISSIONING CODE A, SECTION A2: ENSURE THAT THE CONTROL SYSTEM FUNCTIONS. KEEP A SYSTEMATIC RECORD OF COMMISSIONING RESULTS.

THERMAL INSULATION WORKMANSHIP: INSTALL INSULATION IN ACCORDANCE WITH BS 5970. CARRY OUT THERMAL INSULATION WORK USING ONE OF THE SCHEDULED FIRMS EMPLOYING SKILLED CRAFTSMEN CONVERSANT WITH CLASS OF WORK. IN LOCATIONS WHERE INSULATION CANNOT BE INSTALLED ADEQUATELY AFTER PIPELINE OR DUCTLINE INSTALLATION, PRE-INSULATED SECTIONS SHALL BE INSTALLED.

INSULATION TO SUCH SECTIONS SHALL BE EQUIVALENT IN THERMAL AND PHYSICAL PROPERTIES TO THAT SPECIFIED FOR THE REMAINDER OF THE SYSTEM INCLUDING VAPOUR BARRIERS. DO NOT APPLY THERMAL INSULATION UNTIL INSTALLATION HAS BEEN FULLY TESTED AND ALL JOINTS PROVED SOUND. ENSURE ALL MATERIALS ARE KEPT DRY.

ENSURE ALL DUCTWORK SURFACES ARE DRY BEFORE THE INSTALLATION OF THERMAL INSULATION. INSULATE EACH UNIT SEPARATELY. DO NOT ENCLOSE ADJACENT UNITS TOGETHER. ENSURE THERE IS CLEARANCE BETWEEN INSULATED PIPES. APPLY INSULANTS, FACINGS, COATINGS AND PROTECTION STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

NEATLY FINISH JOINTS, CORNERS, EDGES AND OVERLAPS AND, WHERE POSSIBLE, ARRANGE OVERLAPS TO FALL ON BLIND SIDE. ENSURE OVERLAPS ARE NEAT AND EVEN AND PARALLEL TO CIRCUMFERENTIAL AND LONGITUDINAL JOINTS.

ENSURE THAT WHERE PROTECTION IS APPLIED TO INSULATION, THE JOINTS FALL BLIND SIDE AND THAT ALL JOINTS ARE MADE TO SHED WATER AND SEALED WITH WATERPROOF TAPE, ADHESIVE OR JOINT SEALANT WHERE APPROPRIATE.

INSTALL ALUMINIUM ZINC COATED STEEL PROTECTION, IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. ALUMINIUM SHEETING SECURE LAPPED JOINTS (AT LEAST 40mm) BY MEANS OF POP RIVETS AT A MAXIMUM SPACING OF 75mm. FOR COLD PIPING USE MATCHING ALUMINIUM STRAPS AT MAXIMUM SPACING OF 225mm. ON PIPING OPERATING BELOW AMBIENT TEMPERATURE SEAL ALL JOINTS AGAINST MOISTURE. FOR EXTERNAL USE MAKE JOINTS SHED WATER AND USE SHEETS WITH TREATED SURFACE.

INSULATION THICKNESSES ON DUCTWORK		
MATERIAL	WARM AIR DUCTWORK	CHILLED AIR/DUAL PURPOSE DUCTWORK
SURFACE	THICKNESS (mm)	THICKNESS (mm)
CONTENTS (°C)	UP TO +50°C	ABV.47 +10°C
ROCK MINERAL WOOL	50	70
GLASS MINERAL WOOL	40	65
PHENOLIC FOAM	25	40
NITRILE RUBBER	40	60
BASIS - WARM AIR DUCTWORK AT 35°C, CHILLED AIR DUCTWORK AT 15°C & BS 5422:2009 METHOD FOR SPECIFYING THERMAL INSULATING MATERIALS FOR PIPES, TANKS, VESSELS, DUCTWORK AND EQUIPMENT		
OPERATING WITHIN THE TEMPERATURE RANGE -40°C TO +700°C.		
THICKNESSES OF NITRILE RUBBER ARE MINIMUM THICKNESSES		
THICKNESSES OF MINERAL WOOL AND PHENOLIC FOAM ARE THE NEAREST COMMERCIALLY AVAILABLE THICKNESSES TO MEET THE MINIMUM REQUIREMENTS.		
ALL DUCTWORK SHALL BE INSULATED WHERE HERE VISIBLE (i.e. EXPOSED DUCTWORK) WHEN THE DUCT SURFACE TEMPERATURE IS BELOW THE DEW POINT OF THE AIR WITHIN THE SPACE SERVED.		

MINIMUM CLEARANCES TO PIPE OR PIPE INSULATION	
FROM	MINIMUM CLEARANCE (mm)
WALL	25
CEILING	50
FLOOR	150
OTHER PIPES	25
ELECTRICAL CABLES, CONDUITS, SWITCHGEAR	150

LOCATION OF ACCESS PANELS FOR INSPECTION PURPOSES AND CLEANING									
ELEMENT	LOCATION	RECTANGULAR DUCT SIZE (up to)				CIRCULAR DUCT SIZE (up to)			
		250	500	400	500+	315Ø	500Ø	630Ø+	
STRAIGHT DUCT	10M CENTRES								
CONTROL DAMPERS	BOTH SIDES								
FIRE DAMPERS	BOTH SIDES								
HEATING & COOLING COILS	BOTH SIDES								
ATTENUATORS	BOTH SIDES	300x150 ACCESS PANEL	300x200 ACCESS PANEL	450x300 ACCESS PANEL	450x450 ACCESS PANEL	250x150 ACCESS PANEL	450x300 ACCESS PANEL	500x450 ACCESS PANEL	
FILTER SECTIONS	BOTH SIDES								
AIR TURNING VANES	BOTH SIDES								
90° BEND / BRANCH PIECE	ONE SIDES								
IN DUCT FANS / DEVICES	BOTH SIDES								
LOUVRES	ONE SIDE								

Revision				
T1	ISSUED FOR TENDER		BC	FEB 23
P1	PRELIMINARY	JA	BC	DEC 22
	Description	Drawn	Checked	Date

Revisions

MANCHESTER CITY COUNCIL

Project
QUEENS PARK CONSERVATION STUDIO,
Queens Park, Rochdale Rd, Manchester M9 5SH

Title
PROPOSED VENTILATION SERVICES LAYOUT
GROUND FLOOR

Scale/Size	Drawn	Designed	Software
1:50 @ A0	JA	JA	AutoCAD
	Date DEC 22	Date DEC 22	© Drawing Copyright

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Project number	Drawing number	Revision
1669	1669 (57) L1	T1