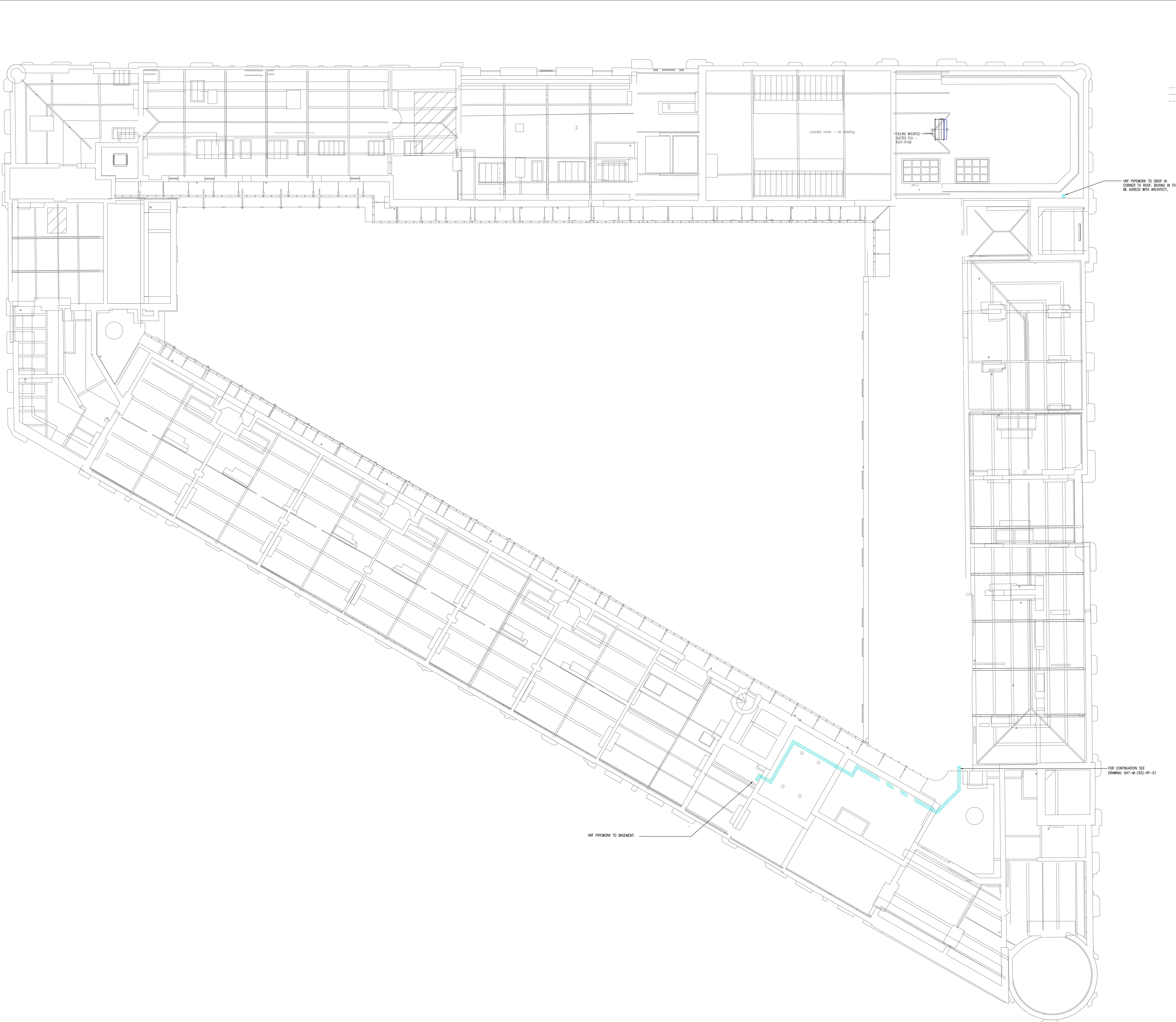




LEGEND

REFRIGERANT FLOW
REFRIGERANT RETURN
INDOOR FAN COIL UNIT
OUTDOOR UNITS
SUPPLY DIFFUSER
EXTRACT DIFFUSER

PIPEWORK IN CEILING VOID
PIPEWORK AT LOW LEVEL
PIPEWORK IN FLOOR VOID
DFA DROP FROM ABOVE
DTB DROP TO BELOW
RTA RISE TO ABOVE
AH ACCESS HATCH

NOTES

1. DO NOT SCALE FROM THIS DRAWING

2. ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION OF PARTS, ORDERING MATERIALS OR COMMENCING WORKS

3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS, SPECIFICATIONS AND SCHEDULES

4. ANY PENETRATION THROUGH FLOOR, SEEK STRUCTURAL ENGINEERS APPROVAL BEFORE COMMENCEMENT

5. ALL PLANT AND EQUIPMENT SHALL BE INSTALLED FULLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

REFRIGERATION INSTALLATION

1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE VRF SYSTEM IN ACCORDANCE WITH BS EN 378. THE SYSTEM SHOWN IS INDICATIVE TO DEMONSTRATE DESIGN INTENT ONLY. THE SYSTEM SIZES AND PIPEWORK ROUTES ARE SUBJECT TO THE CONTRACTORS DETAILED DESIGN

2. MECHANICAL CONTRACTOR'S AIR CONDITIONING SPECIALIST TO SUPPLY, INSTALL, TEST AND COMMISSION ALL INTERCONNECTING REFRIGERATION PIPEWORK BETWEEN THE OUTDOOR AND INDOOR UNITS

3. ALL PIPEWORK TO BE CARRIED OUT IN REFRIGERATION QUALITY SOFT/MECHANICAL DRAWN COPPER TUBING TO BS813 PART 2. VERIFY COMPLIANCE WITH THE APPROPRIATE JOINT PIPES FOR TWIN AND TRIPLE SYSTEMS

4. PIPEWORK SHOULD BE CARRIED OUT BY AN APPROVED (CERTIFICATE APPROVAL MUST BE SUBMITTED PRIOR TO INSTALLATION COMMENCEMENT) REFRIGERATION ENGINEER AND IN ACCORDANCE TO BS-EN 378 2000 SPECIFICATION. RADIUS TOOLS REQUIRED FOR ALL PIPEWORK, TIG WELDING, FLARING BLOCKS ETC

5. LONGEST POSSIBLE LENGTHS OF COPPER PIPE SHOULD BE UTILISED TO MINIMIZE JOINTS ON SITE

6. APPROPRIATE REFRIGERATION INSTALLATION TOOLS MUST BE UTILISED. DRY NITROGEN MUST BE UTILISED AT ALL TIMES IN THE SYSTEM DURING BRACING

7. ALL PIPEWORK (SUCTION AND LIQUID LINES) TO BE INSULATED WITH 15mm ON GROSS CELL ELASTOMERIC FIBRE INSULATION (AS MANUFACTURED BY ARMAFLEX OR EQUAL AND APPROVED) WITH A THE PERFORMANCE CLASS 0 OF THE THERM INSULATION REGULATIONS, HAVING A WALL THICKNESS OF NOT LESS THAN 15mm

AFTER INSTALLATION OF PIPEWORK, AND PRIOR TO SEALING OF INSULATION JOINTS AND COATING OF EQUIPMENT, PIPEWORK SHOULD BE PRESSURE STRENGTH TESTED TO 42 BAR, CHECKED FOR DEFORMATION, AND THEN LEAK TESTED AT 33 BAR AND HOLD FOR 24 HOURS AND CHECKED FOR LEAKS. THIS VACUUM/DEPRESSURED TO (-150MM HG) 700KPa AND HELD AT THAT SETTING FOR 12 HOURS (MINIMUM) THE DOCUMENT FOR SHOULD BE FOLLOWED DURING PRESSURE TESTING PERIOD

8. REFRIGERANT (R22) CHARGE WEIGHT MUST BE CALCULATED, TO THE ACTUAL INSTALLED LENGTH OF PIPEWORK IN ACCORDANCE TO MANUFACTURERS RECOMMENDATIONS

9. THE CHARGING SHOULD BE CARRIED OUT WITH AN APPROPRIATE CHARGING STATION

10. PIPEWORK TO BE PROPERLY TIED AND SUPPORTED AT A MINIMUM OF 1.5 METRE CENTRES AND WHERE REQUIRED SHOULD BE RUN ON GALVANIZED TRAYS. ALL PIPEWORK TO BE LABELLED WITH ID NUMBER (CONDENSING UNITS REF.) AT 1 METRE INTERVALS

11. JOINTS IN COPPER PIPE SHALL BE BRAZED. BRAZING SHALL BE CARRIED OUT TO THE REQUIREMENTS OF THE HPA CODE OF PRACTICE - BRAZING AND BRONZE WELDING OF COPPER PIPE AND SHEET

12. WHERE VRF AND VENTILATION PLANT IS INSTALLED ABOVE JOINTS (DOORS, E, PLASTERBOARD) SHOWN SHALL ACCESS HATCHES ARE TO BE INSTALLED TO ALLOW ACCESS FOR INSTALLATION, COMMISSIONING, MAINTENANCE, CLEANING AND REPAIRS

13. DUCTED VRF UNITS SHALL BE SUPPLIED WITH AN EXTENDED RETURN AIR TEMPERATURE SENSOR WHICH SHALL EXTEND FROM THE UNIT TO PENETRATE SUFFICIENTLY FROM THE FACE OF THE ROOM RETURN AIR GRILLE

14. A CONDENSATE LINE SHALL BE INSTALLED TO EACH FAN COIL UNIT THIS SHALL BE INSTALLED AND INSULATED ALL AS PER THE STANDARD SPECIFICATION MINIMUM SIZE OF CONDENSATE PIPES TO BE 25mm COPPER OR PLASTIC, INSULATED AND PUMPED OR BY GRAVITY FROM EACH FAN COIL / CASSETTE, DRAINING TO RUN 1.50 MIN FALLS

15. CONDENSATE PIPEWORK FROM VRF UNITS SHALL RUN WITHIN THE CEILING VOID TO THE NEAREST BELOW GROUND DRAINAGE POINT AND SHALL BE COMPLETE WITH IN LINE SELF SEALING TRAP

16. THE MECHANICAL CONTRACTOR'S AIR CONDITIONING SPECIALIST SHALL BE RESPONSIBLE FOR THE INTERCONNECTING CONTROL WIRING BETWEEN THE INDOOR AND OUTDOOR UNITS AND CONTROL WIRING BETWEEN REMOTE CONTROLLER AND RELEVANT COMPONENTS. THIS WORK SHALL BE CO-ORDINATED WITH THE ELECTRICAL SUB CONTRACTOR FOR THE ROUTING AND TRUNKING OF THE CABLES

17. CONTROL WIRING SHALL NOT BE RUN NEXT TO POWER WIRING. A MINIMUM SPACE OF 100mm BETWEEN BOTH CONTROL AND POWER CABLES SHALL APPLY

FOR COMMENT NOT FOR SITE USE

11 Dec 22	TENDER ISSUE	10 Jan 2023
07 Dec 22	TENDER ISSUE	14 Jan 2023
24 Nov 21	BUILDING LAYOUT UPDATED LOADING AMENITIES TO SUIT	13 Oct 2021
03 Dec 21	TENDER ISSUE	12 Oct 2021
21 Oct 21	TENDER ISSUE	11 Oct 2021

Date	Description	Rev	Drawn/Checked
Revision Description			

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Project:
**LONDON ROAD FIRE STATION
FIRE STATION, LONDON ROAD,
MANCHESTER, M1**

Drawing Title:
**MECHANICAL SERVICES
ROOF VOID
COMFORT COOLING LAYOUT**

Date	Design By	Drawn By	Scale
24.02.21	IGB	IGB	1:100

Issue Status:
TENDER

Drawing Number:
647-M-(55)-RV-01

Rev:
T5

XREF Updated on: 04.11.21

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