

Notes:

- This drawing shall be read in conjunction with all other drawings and specifications.
- This drawing has been produced from a limited-access site survey by the engineer. The contractor shall therefore verify via their own intrusive site survey that the drawing reflects the installations at the commencement of works.
- All mechanical services, equipment and installations which are to remain located in the area of works shall be protected for the duration of works.
- Any services that are to remain, but inadvertently stripped out or damaged shall be reinstated by the MSI at no cost to the Employer, and to the satisfaction of the Engineer.
- Refurbishment works will be undertaken within an occupied building. The MSI shall therefore ensure noisy works, including drilling, etc shall be completed out of normal working hours.
- The MSI shall dispose of all redundant materials utilising their own skips, etc, in accordance with the building landlord's access conditions.
- All works on site shall be undertaken in liaison with the site managers; no works shall be commenced without a permit to work and without comprehensive method statements and risk assessments.
- Works shall be arranged such that there is no disruption to occupied staff. All works shall be undertaken in accordance with the Employers and building landlord's site rules and restrictions.
- The MSI shall allow for full liaison and co-ordination with the other parties regarding the extent of provision and interfacing, to ensure that the delivery/site assembly are co-ordinated on site.
- Services requiring maintenance shall be kept within accessible areas.
- New builderswork holes shall be formed by the MSI or Principal Contractor, including pipe sleeves and fire stopping where necessary.
- All new plant shall be supported independently and not utilise the ceiling grid for support.
- All pipework shall be fully bonded to earth.
- Refrigeration pipework shall be mounted on basket tray.
- Master and slave BC boxes shall be mounted within the pitched roof void.
- All fan coil units, BC boxes and pipework shall be mounted/distributed within the pitched roof void.
- Access to all fan coil units and BC boxes shall be via the pitched roof void. No access hatches shall be cut into the existing plasterboard ceiling.
- All fan coil units and BC boxes require access from the underside. The MSI shall therefore ensure that the units have a minimum of 1.0m clearance below for maintenance access.
- All BC Boxes shall be 8 port to allow for future expansion, include isolation valves on the pipework branches, and be provided c/w acoustic jackets.
- Final co-ordination of fan coil units, BC boxes and pipework shall be carried out by the MSI to suit the existing roof joists and beams. However, for ease of access and co-ordination of services, all fan coil units shall be mounted as high as possible (minimum 1.0m above joists).
- External condensing units mounted on roof. Refer to roof drawing for further details. Left hand side VRF system (condensing unit ref OU/01) serves BC boxes 05/01, 04 & 05. Right hand side VRF system (condensing unit ref OU/02) serves BC boxes 05/02 & 03.
- All main refrigeration pipes shall be mounted at high level tight to the pitched roof.
- Services branches shall distribute at low level to ease access. As such, access steps shall be provided as necessary by the MSI to provide safe access.
- The MSI shall employ a structural engineer to check suitability of existing structure to support new plant items and distribution of services.

Return air duct at high level. Follow line of pitched roof then set around main beams as necessary. Branches set across walkway at high level to avoid restricting head height.

BC box mounted as high as possible, without restricting access. Minimum clearance of 1.0m required below unit.

Roof void boarded out by Architect to provide safe access. Extend of boarding to be indicated within Architect's package.

Access steps shall be provided as necessary to provide safe access across low level services.

Attic Detail
(NTS)

Builderswork openings required through brickwork.

New access hatch location proposed by Architect. The MSI to determine required dimensions and confirm whether this is suitable for passing new plant into the pitched void space. An alternative is an access door located opposite side of core.

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Refer to roof drawing 35660-HML-XX-RF-GA-M-101001 for further details

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New refrigeration pipework, mounted on cable tray, extend from BC box to fan coil unit.

New refrigeration pipework, mounted on cable tray, extend within roof void to new BC box.

Wall mounted controller for fan coil unit.

2 No new electrical panel heaters shall be installed below the existing glazing. The MSI shall supply new panel heaters that are identical to the panel heaters recently installed within the 4th floor toilets. The existing power supplies shall be re-used and relocated if necessary.

Existing single access door leading into pitched roof void shall be replaced with a double door. Refer to Architect's package. The MSI shall review and determine whether this is suitable for passing new plant into the pitched roof void, and routing around to the furthest point. An alternative is the access hatch, located opposite side of core.

Centralised controller for VRF systems and MVHR shall be wall mounted within MEP riser cupboard. ID plate with engraved text shall be wall mounted, screwed to wall above controller stating 'Centralised controller for 5th floor VRF systems and MVHR'.

Fan Coil Unit Schedule

Fan coil unit reference	Location/ serving	Fan coil unit type	Dimensions H x W x D	Sensible cooling capacity (kW)	Heating capacity (kW)	Maximum air flowrate (l/s)	Speed setting	Room NR level	Outdoor unit reference	Unit selection	Weight	Power Supply	Running Current (A)	Maximum Fuse Size (A)
FCU05/01	Meeting room 1	Chassis type	250 x 700 x 732	3	2.3	150	M1	NR35	OU/01	PEFY-M32VMA-1	21	240/1/50	0.48	6
FCU05/02	Meeting room 3	Chassis type	250 x 700 x 732	2.1	1.55	125	M1	NR35	OU/01	PEFY-M25VMA-1	21	240/1/50	0.33	6
FCU05/03	Meeting room 2	Chassis type	250 x 700 x 732	2.1	1.55	125	M1	NR35	OU/01	PEFY-M25VMA-1	21	240/1/50	0.33	6
FCU05/04	Meeting room 4	Chassis type	250 x 700 x 732	2.1	1.55	125	M1	NR35	OU/02	PEFY-M25VMA-1	21	240/1/50	0.33	6
FCU05/05	Open plan	Chassis type	250 x 700 x 732	2.1	1.55	125	M1	NR38	OU/02	PEFY-M25VMA-1	21	240/1/50	0.33	6
FCU05/06	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/07	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/08	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/09	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/10	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/11	Open plan	Chassis type	250 x 1100 x 732	5.3	4.2	300	M1	NR38	OU/02	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/12	Agile working 3	Chassis type	250 x 900 x 732	5	4	166	Low	NR38	OU/02	PEFY-M63VMA-1	30	240/1/50	1.48	6
FCU05/13	Open plan	Chassis type	250 x 1100 x 732	5.5	3.5	300	M1	NR38	OU/01	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/14	Open plan	Chassis type	250 x 1100 x 732	5.5	3.5	300	M1	NR38	OU/01	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/15	Turret	Chassis type	250 x 900 x 732	4	3	167	Low	NR35	OU/01	PEFY-M63VMA-1	25	240/1/50	0.67	6
FCU05/16	Open plan	Chassis type	250 x 1100 x 732	5.5	3.5	300	M1	NR38	OU/01	PEFY-M80VMA-1	30	240/1/50	1.41	6
FCU05/17	Open plan	Chassis type	250 x 1100 x 732	5.5	3.5	300	M1	NR38	OU/01	PEFY-M80VMA-1	30	240/1/50	1.41	6

Notes:
Unit selections based on Mitsubishi/Koolhaas.
All chassis type units shall include intake and discharge plenum boxes for connection of supply and return air ducts, c/s access for filter removal.
Unit dimensions do not include plenum boxes.

Do not scale from this drawing.
Verify dimensions by site measurement.
Read this drawing in conjunction with the latest architectural and structural drawings.
This drawing is based on the following information:-

Legend

- Refrigeration pipework mounted on cable tray
- Wall mounted controller for temperature adjustment (final location to be agreed on site)
- Access Hatch
- Pitched Roof Void

P04	15/08/24	Tender Issue.	MS	SR
P03	02/08/24	Tender Issue.	MS	SR
P02	26/07/24	Preliminary Issue.	MS	SR
P01	19/07/24	Work in Progress.	MS	SR
Rev	Date	Description	Checked	Approved



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Client
AM Alpha

Project
Royal London House
196 Deansgate, Manchester
5th Floor Refurbishment Works

Drawing Title
Mechanical Services
5th Floor
Proposed Heating & Cooling Layout

Scale 1:100	Sheet Size A1	Designed DA	Checked SR
Project Status TENDER	Suitability	HM Project No. 35660	Rev
Drawing No. 35660-HML-XX-05-GA-M-111001			P04