Applied ENERGY

GMG

15 - 29 EYRE STREET HILL, LONDON EC1R 5DZ

VENTILATION REPORT

PLANNING CONDITION 31

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1.0 INTRODUCTION

This document has been prepared to provide details of the mechanical system proposed within the development to discharge planning condition 31 for the Vine Hill Hotel at 15-29 Eyre Street, London EC1R 5DZ.

2.0 PLANNING CONDITION

Pre-commencement Planning Condition 31 states:-

"*Other than works of demolition and site clearance, no development shall commencement until full details of the proposed Mechanical Ventilation system shall be submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be constructed and maintained in accordance with the approved details.*"

With the following reasoning: -

"To safeguard the amenity of future occupiers of the development site in accordance with the requirements of policy A1 of the London Borough of Camden Local Plan 2017."

3.0 PROPOSAL

It is proposed that all hotel guestrooms with windows will be mechanically ventilated via individual heat recovery ventilation units hotel guestrooms located within central core "windowless" will be mechanically ventilated via central mechanical supply and extract air handling unit located on the roof and fitted with filters on the supply air to ensure clean air is provide to the habitable spaces.

It is proposed that all affordable flats will be mechanically ventilated via individual heat recovery ventilation units.

3.1 Hotel Guestroom Ventilation

"Façade" Guestrooms

It is proposed that each bedroom will be served by a single ceiling mounted mechanical ventilation heat recovery unit model EVO DC 250 heat recovery unit manufactured by Vectaire.

The unit will be located in bulkhead above the en-suite bathroom and serving both guestrooms and en-suite bathroom. The unit will be complete with internal supply and extract fans, plate heat exchanger, condensate tray and drain, acoustic lining, filters and controls.

The unit will operate constantly at 20 l/s supply and extract and is to be installed as per the standard detail shown below.

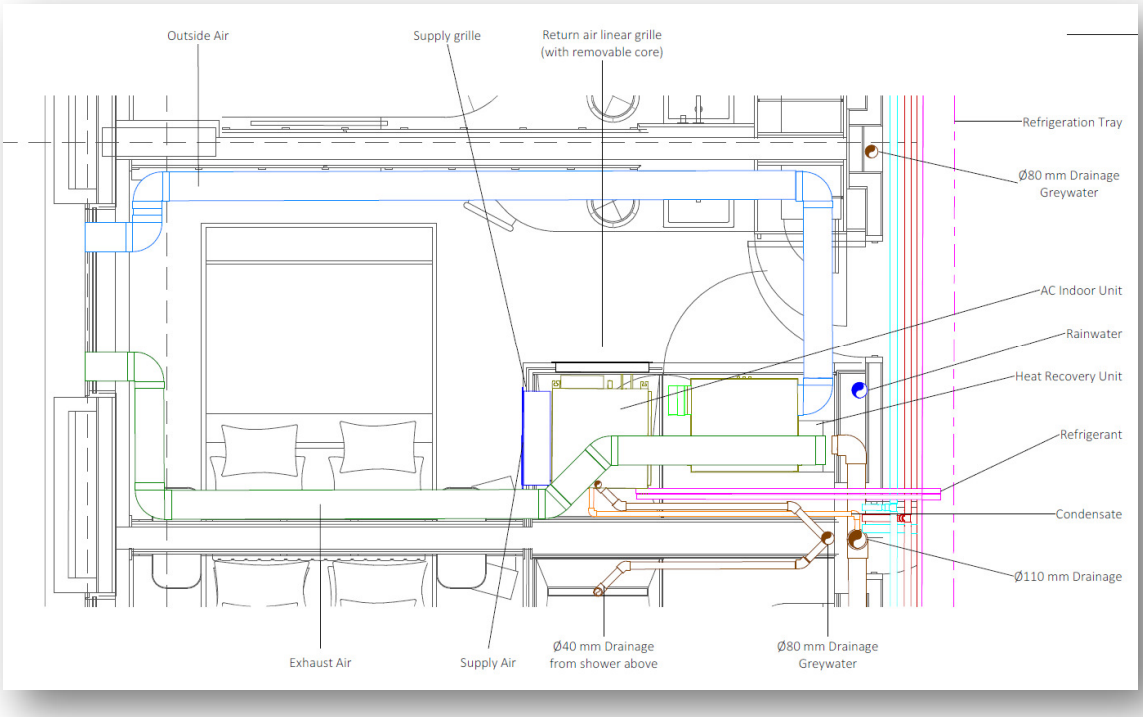

Figure 1: Typical "Facade" Room Arrangement

The filter fitted internally within the MVHR units on the fresh air intake complete with EU3 filter media. This is effective against pollen and atmospheric dust in the outside air ensuring the occupants have a clean, fresh air supply.

The system will be installed in accordance with the requirements of Approved Document L and F of the Building Regulation's.

"Windowless" Guestrooms

It is proposed that each bedroom will be served by a central mechanical supply & extract air provided via Air Handling Unit.

The AHU unit will be located on the roof level within louvred enclosure as shown in the Appendix A. The unit will be complete with internal supply and extract fans, plate heat exchanger, condensate tray and drain, acoustic lining, filters and controls.

The air will be provided constantly at 20 l/s supply and extract and is to be installed as per the standard detail shown below.

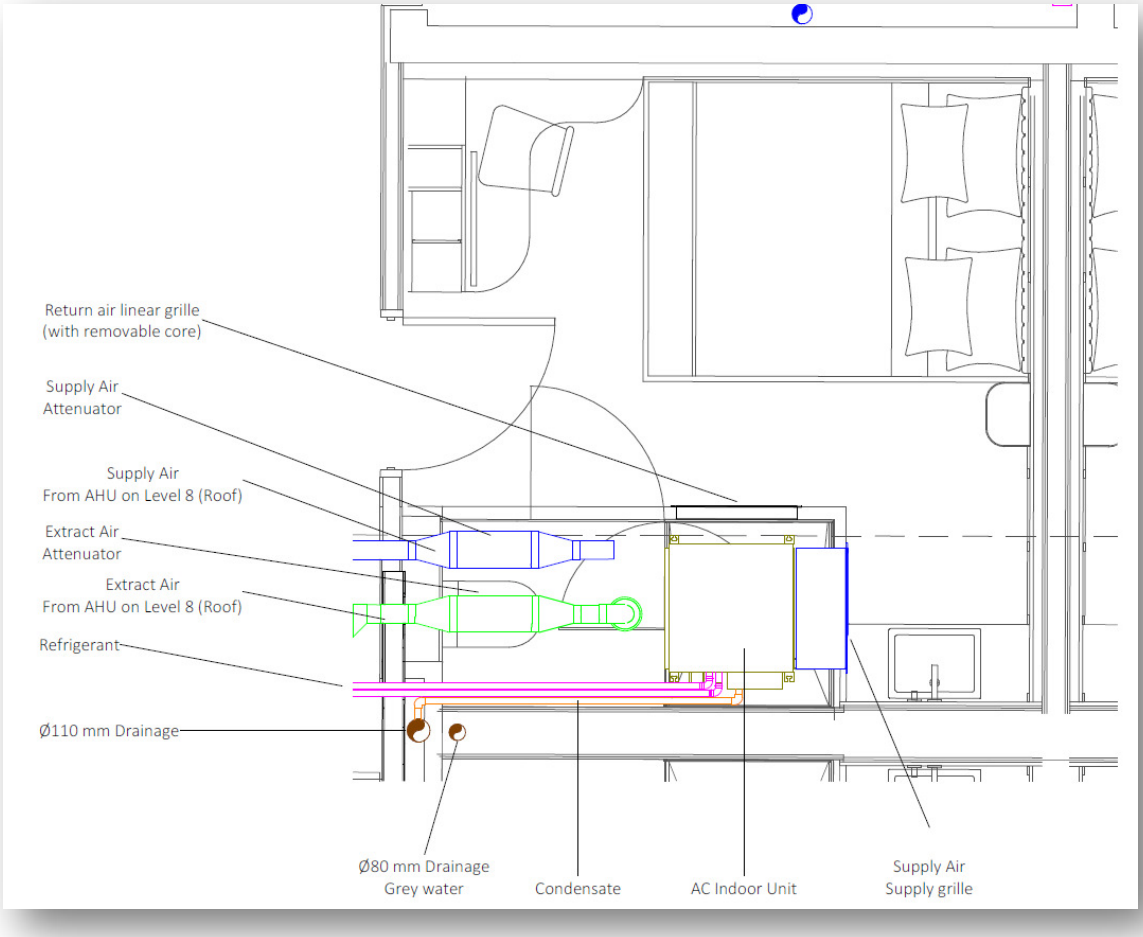

Figure 2: Typical "Windowless" Room Arrangement

The filters fitted internally within the AHU unit on the fresh air intake complete with G4 & F7 filter media and on the extract air exhaust complete with F5 filter media. This is effective against pollen and atmospheric dust in the outside air ensuring the occupants have a clean, fresh air supply.

The system will be installed in accordance with the requirements of Approved Document L and F of the Building Regulation's.

3.2 Hotel Common Areas Ventilation

F&B Areas Ventilation

It is proposed that the hotel Food & Beverage area will be served by single a central mechanical supply & extract air provided via MVHR Unit.

The MVHR unit will be located within the ceiling void above the public toilets as shown below and in the Appendix A. The unit will be complete with internal supply and extract fans, plate heat exchanger, condensate tray and drain, acoustic lining, filters and controls.

The air will be provided constantly at 10 l/s/ person supply and extract and is to be installed as per the standard detail shown below.

The fresh and exhaust air ductwork will terminate on ground floor at high level below the Affordable housing block under croft as per detail shown in Appendix A.

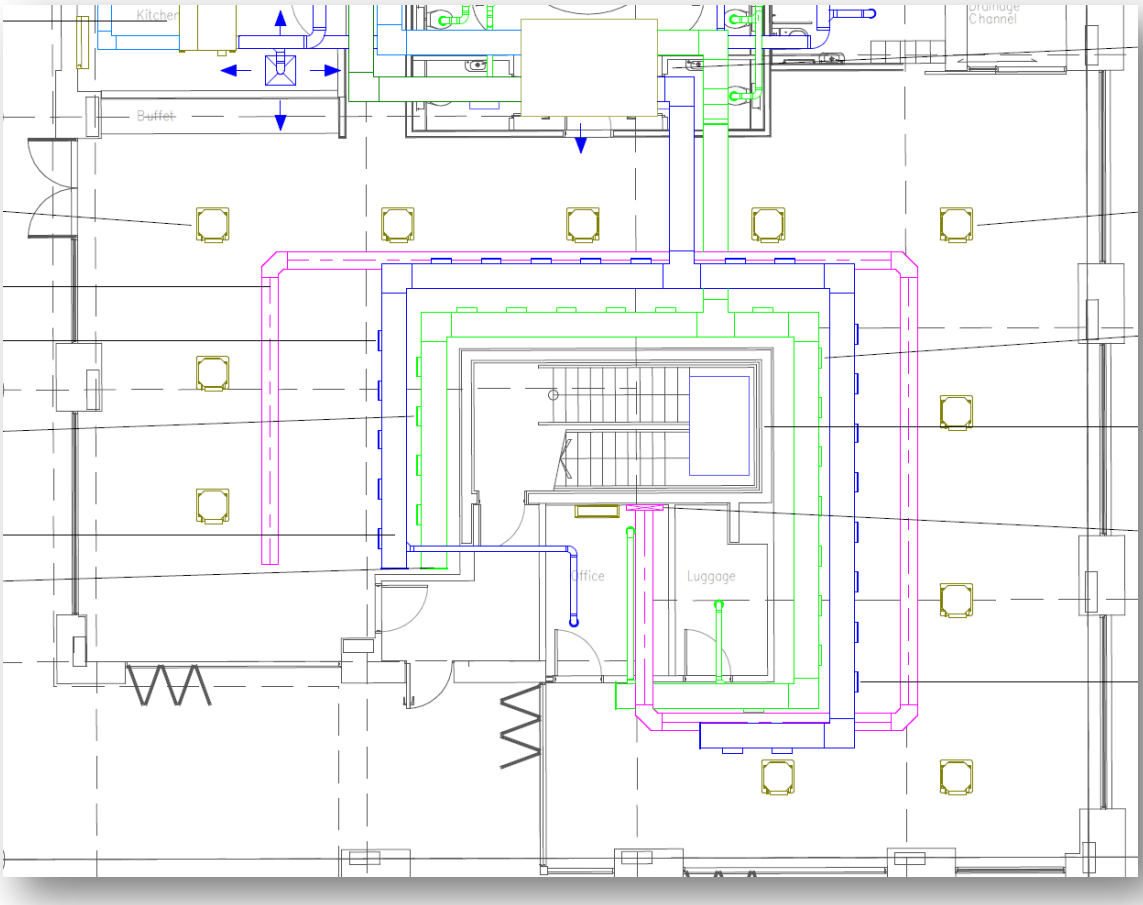

Figure 3: F&B Area Arrangement

The filters fitted internally within the AHU unit on the fresh air intake complete with G4 & F7 filter media and on the extract air exhaust complete with F5 filter media. This is effective against pollen and atmospheric dust in the outside air ensuring the occupants have a clean, fresh air supply.

The system will be installed in accordance with the requirements of Approved Document L and F of the Building Regulation's.

Food Preparation

The hotel food offer will be limited to serving breakfast only and no cooking is envisaged. The hotel operator brand standards allow for general food preparation equipment together with a steam oven, contact grill and pass though dishwasher. No frying, deep frying or pan cooking is envisaged. For these reasons no dedicated kitchen extract is envisaged, and ventilation is to be provided via a standard background ventilation as shown below.

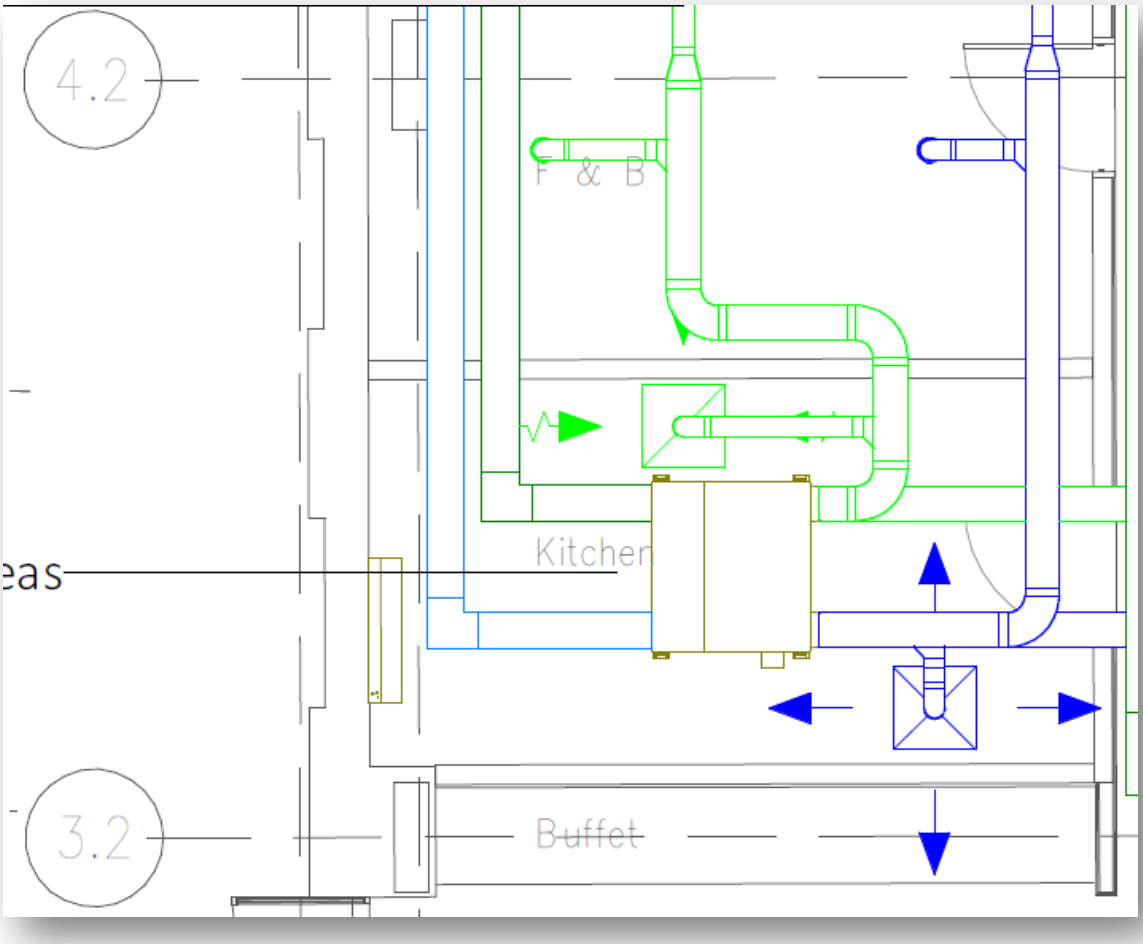

Figure 4: Food Preparation Arrangement

Public Toilets & BOH Facilities

It is proposed that the public toilets and Back of House areas will be served by single a central mechanical supply & extract air provided via MVHR Unit.

The MVHR unit will be located within the ceiling void within the food preparation room as shown below and in the Appendix A. The unit will be complete with internal supply and extract fans, plate heat exchanger, condensate tray and drain, acoustic lining, filters and controls.

The air will be provided constantly with supply and extract and is to be installed as per the detail shown below.

The fresh and exhaust air ductwork will terminate on ground floor at high level below the Affordable housing block under croft as per detail shown in Appendix A.

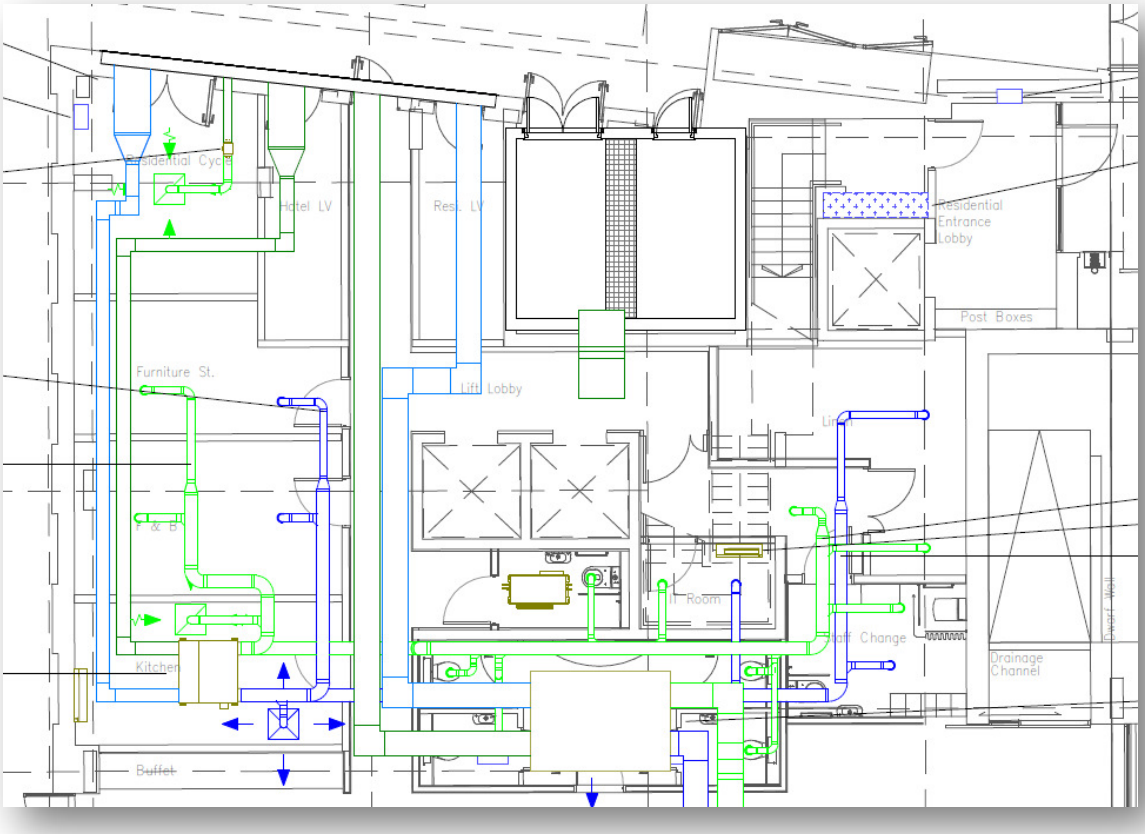

Figure 5: BOH Areas Arrangement

3.3 Affordable Housing Flats Ventilation

"Affordable Housing Flats"

It is proposed that Flat will be served by a single mechanical ventilation heat recovery unit model MIDI heat recovery unit manufactured by Vectaire.

The unit will be located in the dedicated cupboard in the hall and serving all guestrooms, kitchen and en-suite bathrooms. The unit will be complete with internal supply and extract fans, plate heat exchanger, condensate tray and drain, humidity sensor, acoustic lining, filters and controls.

The unit will operate constantly providing fresh air supply and extract the stale air and is to be installed as per the standard detail shown below.

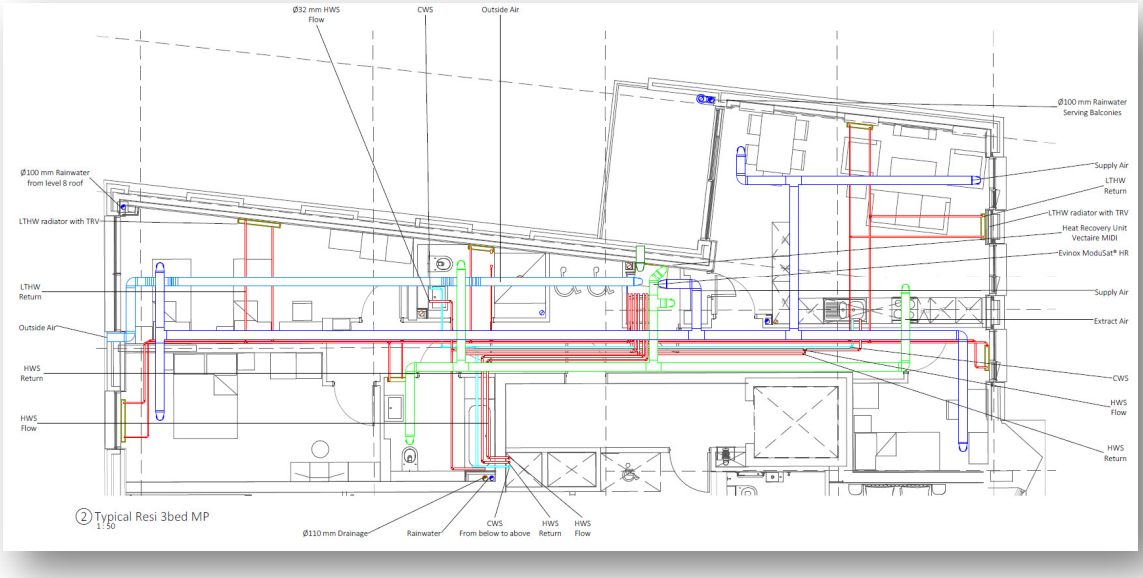

Figure 6: Typical Affordable Housing Flat Arrangement

The filter fitted internally within the MVHR units on the fresh air intake complete with EU3 filter media. This is effective against pollen and atmospheric dust in the outside air ensuring the occupants have a clean, fresh air supply.

The system will be installed in accordance with the requirements of Approved Document L and F of the Building Regulation's.

3.4 Final Assessment

Taking into account the above, the proposed ventilation strategy meets Policy *A1 of the London Borough of Camden Local Plan 2017* and the Planning Condition No 31 requirements.

Appendix A

- CONTRACTOR TO PREPARE DETAIL WORKING DRAWINGS FOR APPROVAL SUBSEQUENT TO SITE SURVEY.
- CONTRACTOR TO AGREE FINAL SETTINGS OUT PRIOR TO INSTALLATION.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL NECESSARY ARCHITECTURAL, STRUCTURAL & SPECIALIST DRAWINGS, SCOPE OF WORKS, ROOM DATA SHEETS & SPECIFICATIONS.
- ANY CALCULATIONS, SIZES, EQUIPMENT SELECTIONS, ARE INDICATIVE. CONTRACTOR TO UNDERTAKE CALCULATIONS, SIZING, EQUIPMENT SELECTION ETC. AS PART OF DESIGN RESPONSIBILITIES.
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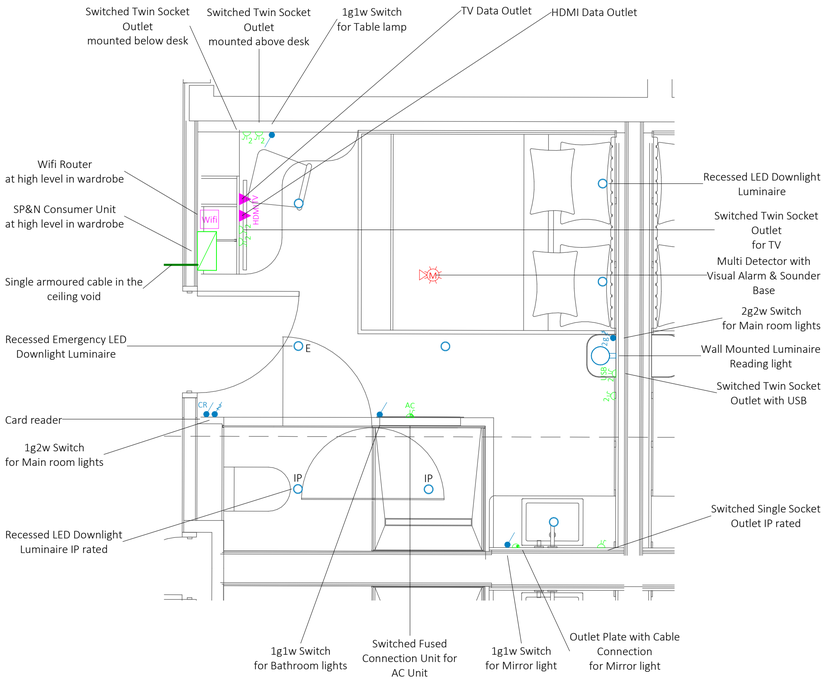
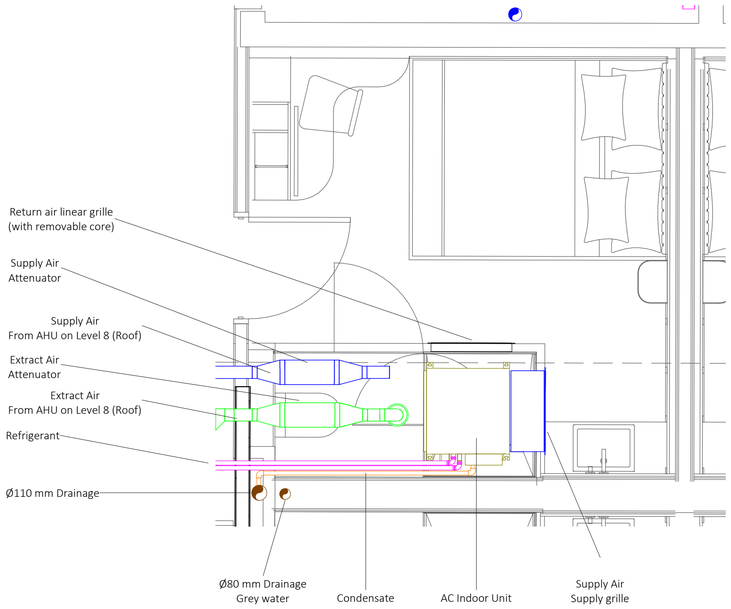
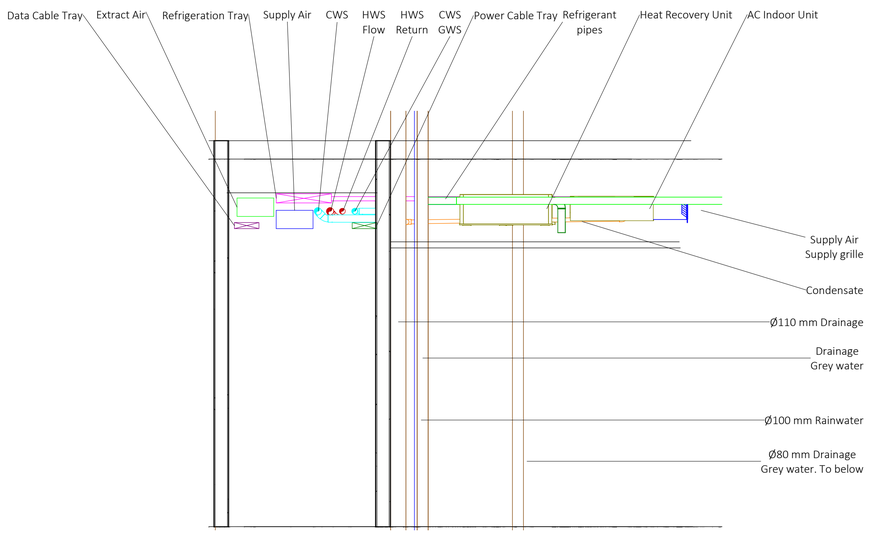


2 Type 1 - Electrical Services
1 : 25



1 Type 1 - Mechanical Services
1 : 25



3 Section 1
1 : 25

Rev	Revision	Date
B	Tender Issue	02.12.19
11	Stage 3 Issue	05.02.19

PROJECT
Vine Hill - Clerkenwell Office and Hotel

TITLE
Bedroom Type 1 - MEP Services

DRAWING No. ALBED1_069 | SCALE (@A1) 1 : 25 | Project Ref: 17089

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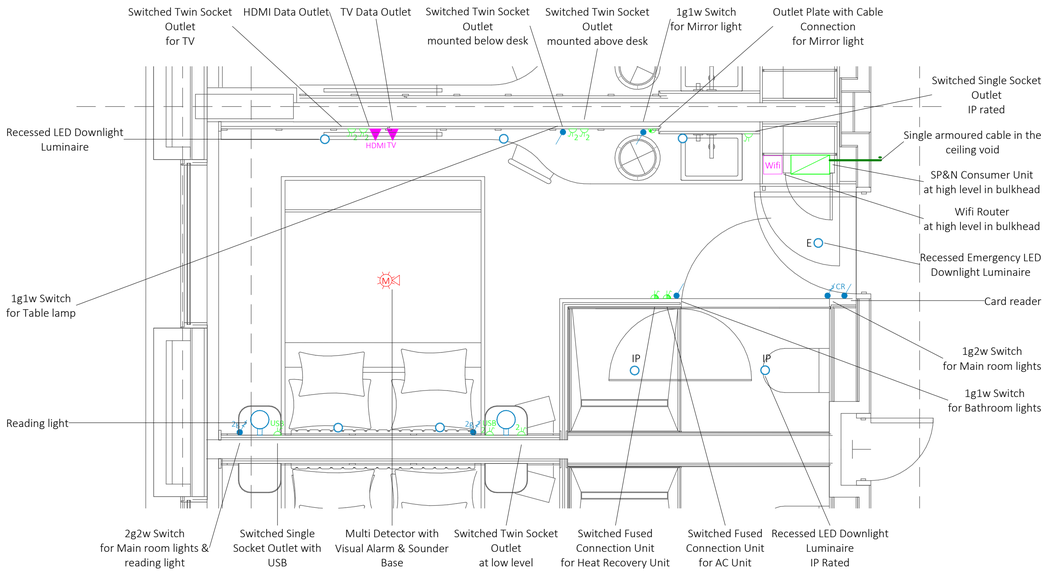

1 Bedroom 2 - Electrical Services
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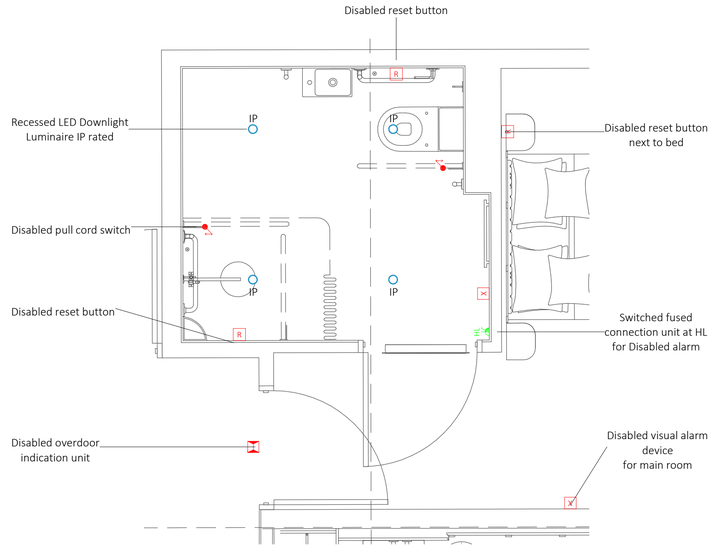

2 UA Electrical Services
1 : 25

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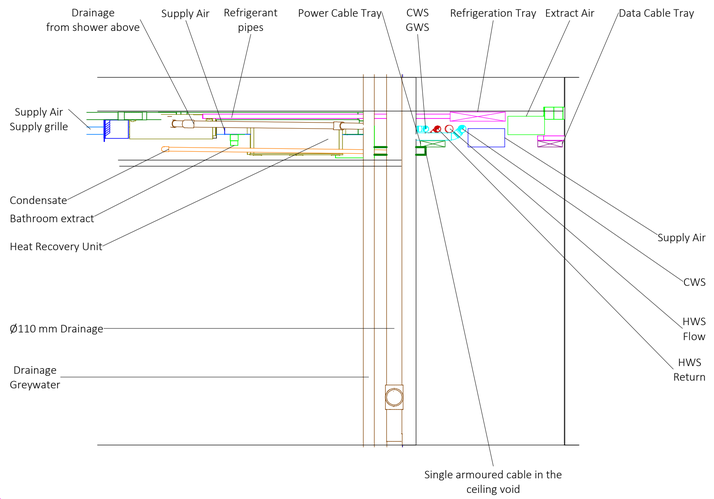
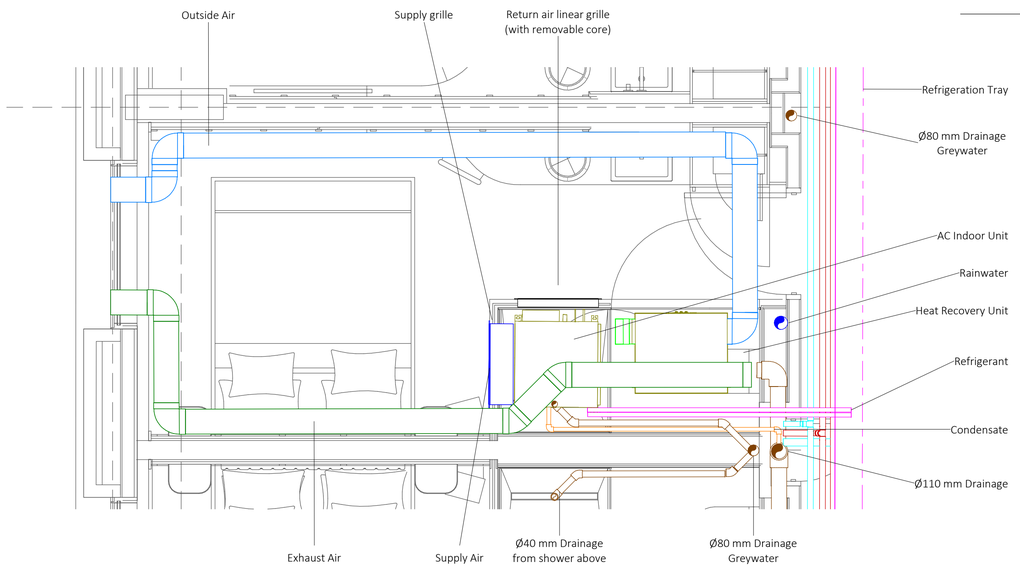
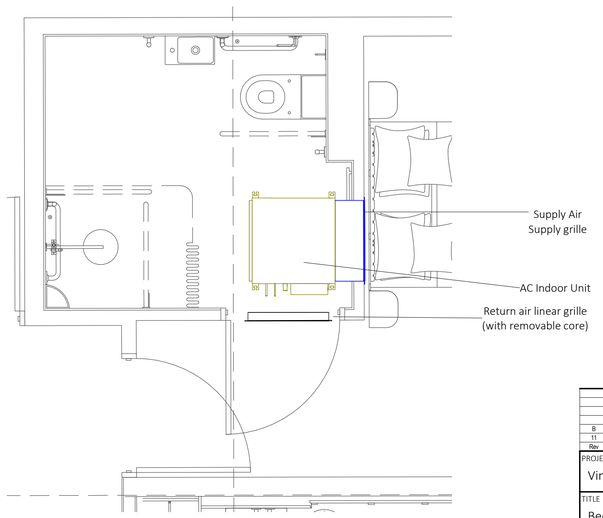


5 Bedroom 2 Section
1 : 25



3 Bedroom 2 - Mechanical Services
1 : 25



4 UA Mechanical Services
1 : 25

Rev	Revision	Date
B	Tender Issue	02.12.19
11	Stage 3 Issue	05.02.19

PROJECT
Vine Hill - Clerkenwell Office and Hotel

TITLE
Bedroom Type 2 & UA - MEP Services

DRAWING No.	SCALE (@A1)	Project Ref:
ALBED2_070	1 : 25	17089

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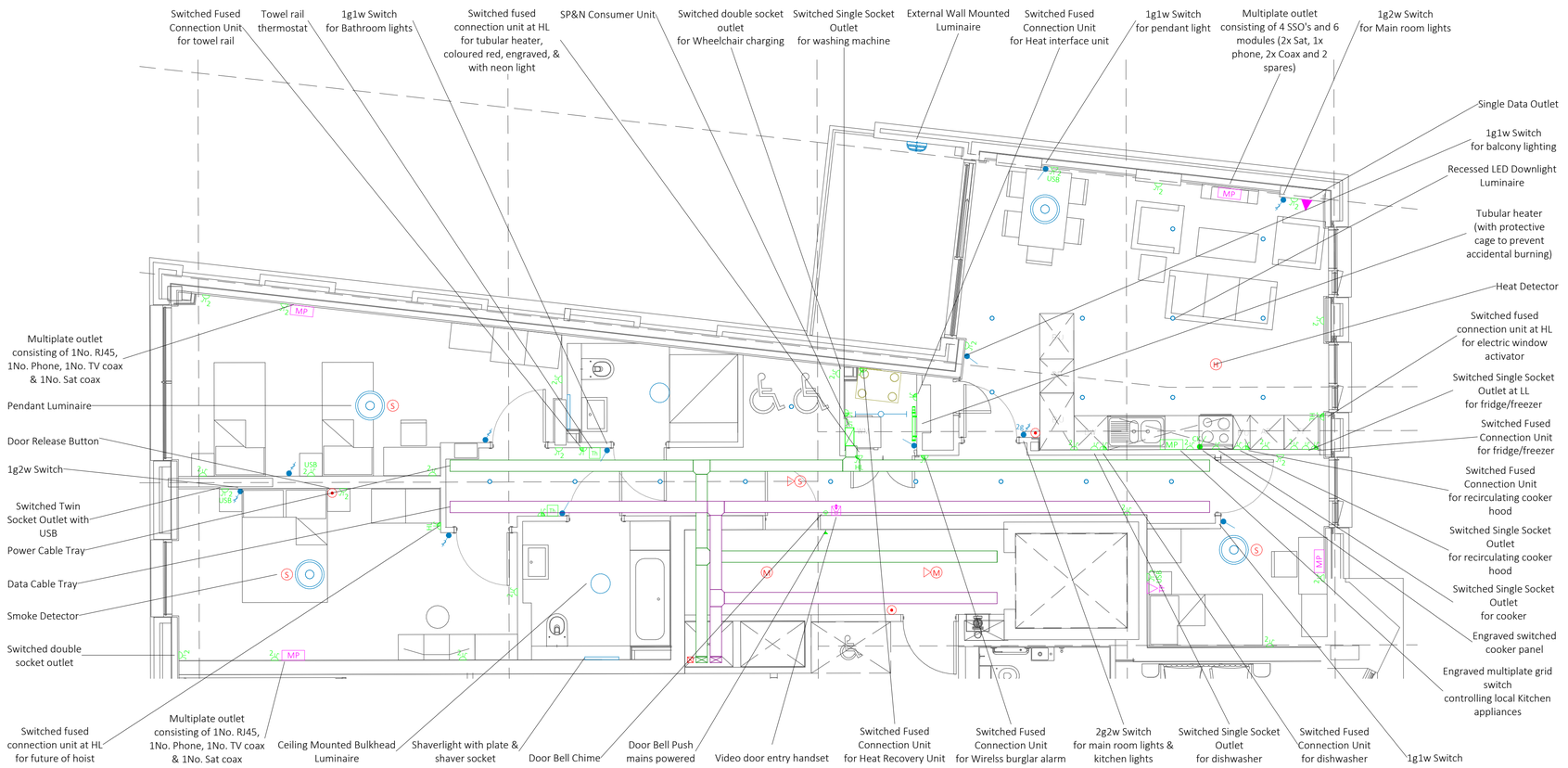
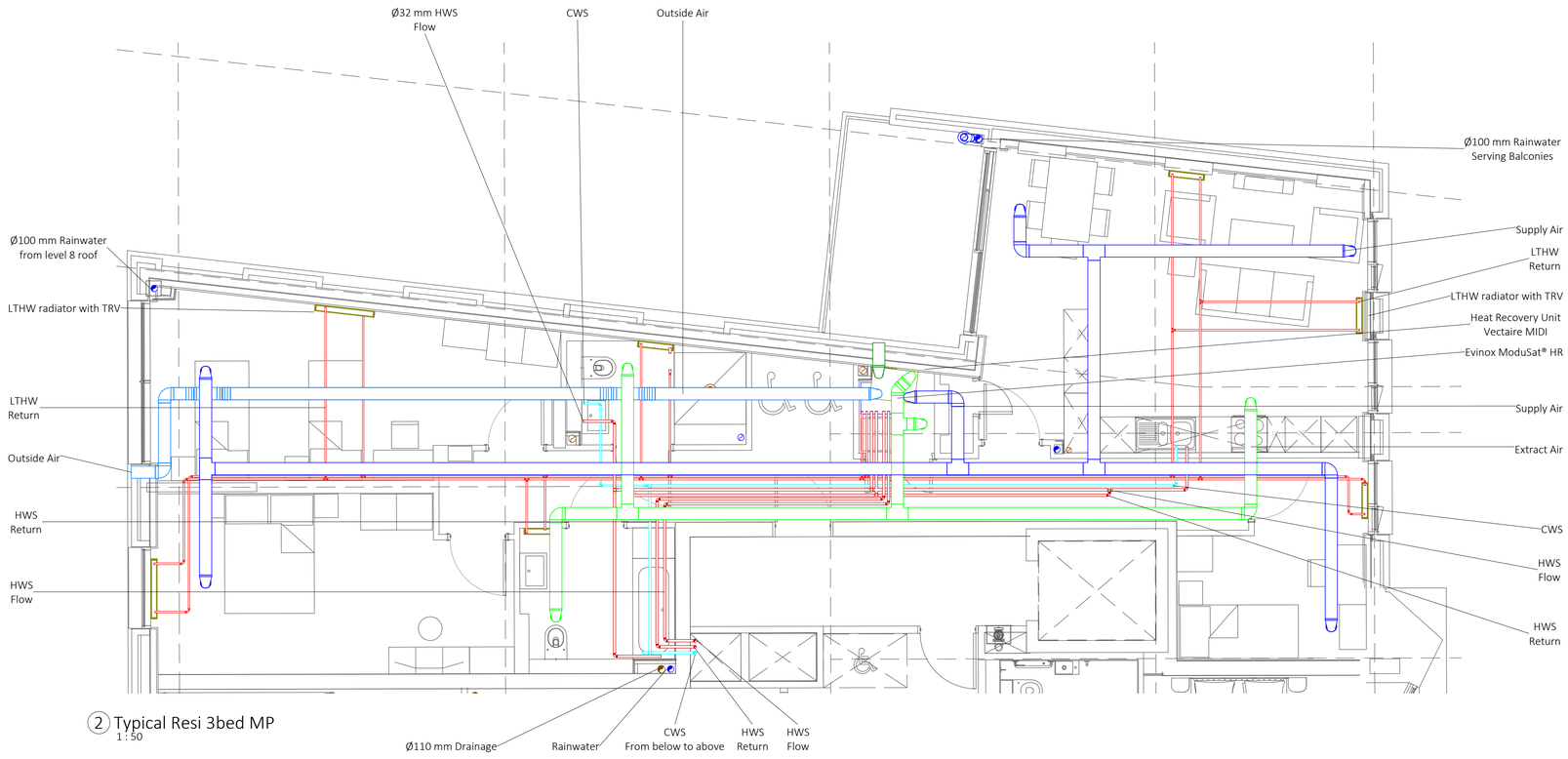


1 Typical Resi 3bed E
1 : 50



2 Typical Resi 3bed MP
1 : 50

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Notes

1. Switches and socket outlets will be aligned with door handles at approximately 1.04m above floor level.
2. All electrical controls and socket outlets are to be wheelchair user accessable.
3. Lighting plates shall be large rocker type for easy operation.
4. All fused connection units to be clearly and durably labelled and be easily accessable.
5. Brightly coloured switched socket outlets in kitchens.
6. Fire alarm detectors are to be mains operated from lighting circuit with battery backup.
7. All valves to be installed within sink base unit and not within the space for the washing machine and dishwasher.
8. All plumbing fittings should be located to the side of the base unit to the appliance space they served.
9. Rain water pipework is to be in HDPE.
10. SVP Stacks penetrating the roof are to be avoided and the use of Durgo or similar air admittance valves is the preferred option.
11. Trapped waste stand pipes will be provided for the washing machine and to be left temporarily capped.
12. Heat meters shall have two M-Bus outputs. M-Bus output 1 shall be connected to the prepayment system, if present. M-Bus output 2 shall be connected to a site-wide Mbus network. The cabling used for M-Bus wired networks should be suitable for M-Bus communication, such as the Belden 8444 4 core unshielded cable. Cat5/6e or similar should not be used for M-Bus networks.

Rev	Revision	Date
B	Tender Issue	02.12.19
11	Stage 3 Issue	05.02.19

PROJECT
Vine Hill - Clerkenwell Office and Hotel

TITLE
Flat Type 1 - All Services

DRAWING No.	SCALE (@A1)	Project Ref:
ALFLAT1_071	As indicated	17089

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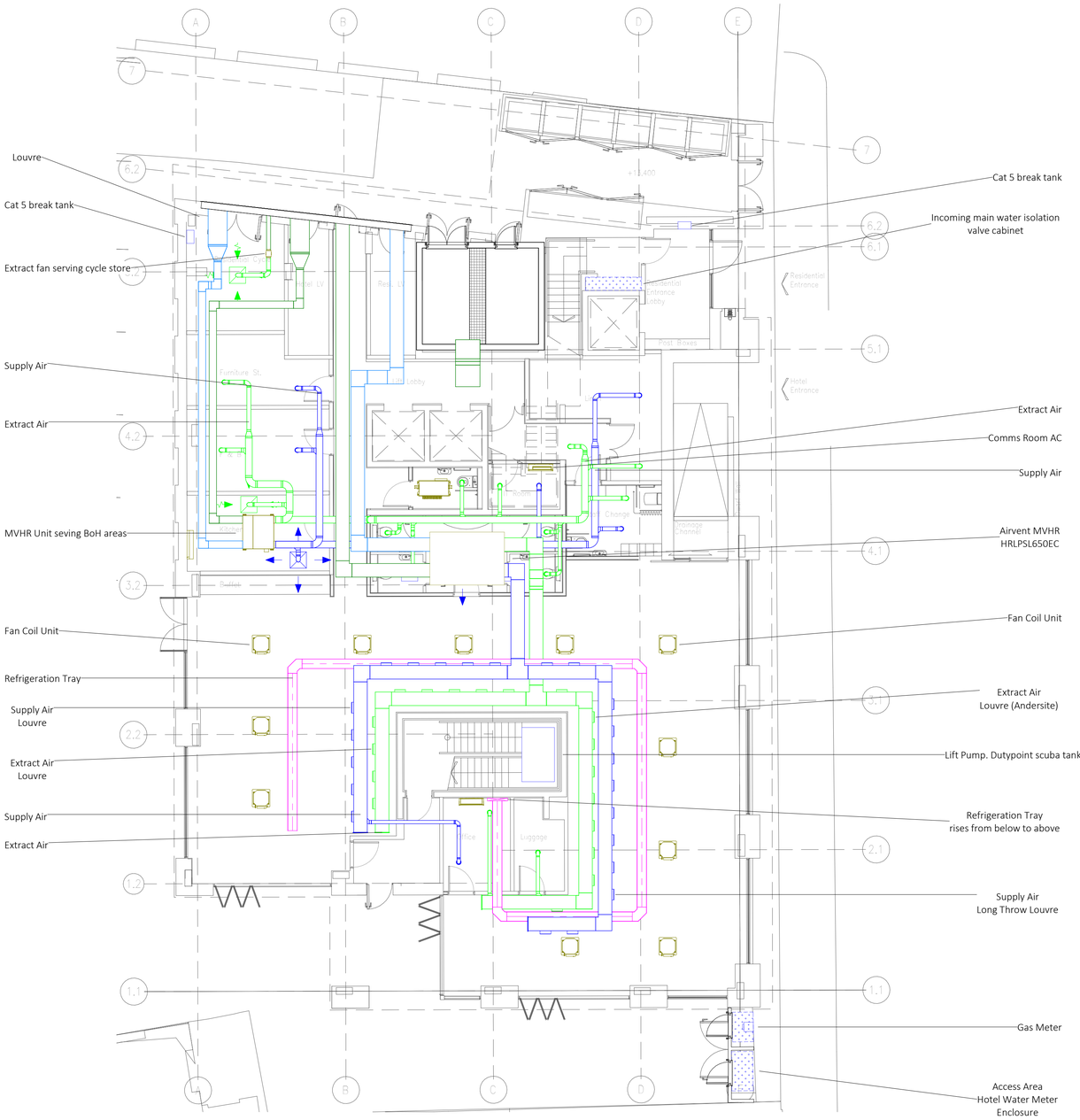

Drawing Specific Notes

1. Ventilation ductwork passing within escape routes to be fire rated in accordance with Building Regulations Approved Document B.
2. Fire/smoke dampers to be provided in accordance with the fire strategy and Building Control requirements.
3. Access doors to be provided at each fire/smoke damper and VCD as required for cleaning by TR/19.
4. All ductwork branches & main ductwork connections are to be balanced using local VCD's.
5. Refer to schematic drawing for damper requirements.
6. Fan & ductwork noise attenuation is subject to accoustic consultant's requirements and the specialist contractor's detailed design.
7. Services layout is to be further co-ordinated with structural engineer & Architect.
8. For areas deemed to require supplementary heating via electric panel heaters, liase with the Electrical Contractor for provision of fused connection units.
9. Condensate from each AC unit to be routed via gravity and connect to nearest SVP with an inline HepVO waterless trap.
10. No condensate pumps are to be used unless approved by the EA.
11. Ensure that all insulation for AC pipework is installed in strict compliance with the Armaflex Installation Guides.
12. Positioning of BC boxes at Ground Floor to be dependant on length of runs to outdoor units.
13. Allow for all motorised smoke dampers to be connected to a monitoring panel.

Rev	Revision	Date
B	Tender Issue	02.12.19
A	Tender Stage 1	13.03.19
11	Stage 3 Issue	05.02.19

PROJECT
Vine Hill - Clerkenwell Office and Hotel

TITLE
Hotel - Ground Floor Mechanical - AC and Ventilation Services

DRAWING No.	SCALE (@A1)	Project Ref:
MLAVH00_005	1 : 100	17089

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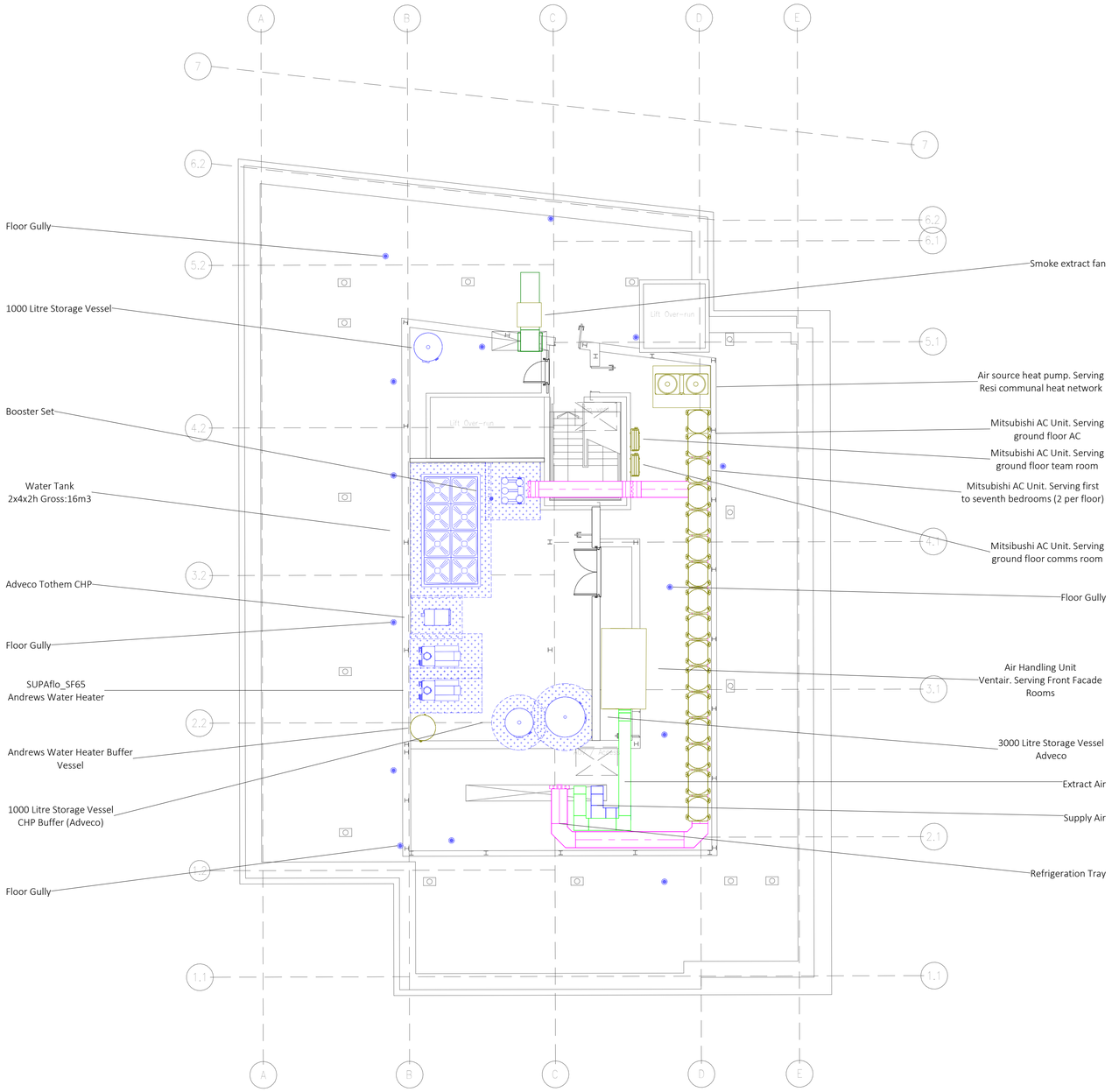

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4. All ductwork branches & main ductwork connections are to be balanced using local VCD's.
5. Refer to schematic drawing for damper requirements.
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7. Services layout is to be further co-ordinated with structural engineer & Architect.
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Rev	Revision	Date
B	Tender Issue	02.12.19
A	Tender Stage 1	13.03.19
11	Stage 3 Issue	05.02.19

PROJECT

Vine Hill - Clerkenwell Office and Hotel

TITLE

Hotel - Eighth Floor Mechanical - AC and Ventilation Services

DRAWING No.	SCALE (@A1)	Project Ref:
MLAVH08_053	1 : 100	17089

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