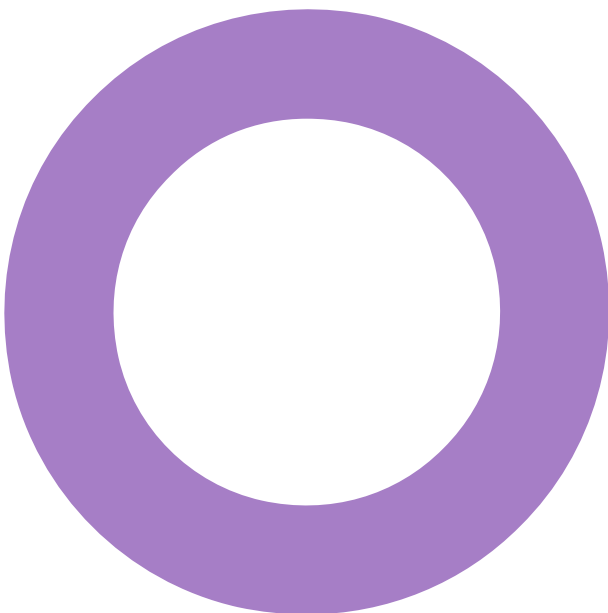


Project RED. Manchester Royal Infirmary. IHP.

MEP ENGINEERING

VENTILATION, EXTRACTION AND ODOUR STATEMENT

REVISION P01 – 07 OCTOBER 2020



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	07/10/20	First Issue – For Comment	IH	EG	IH

This document has been prepared for IHP only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

Project number: 04/05996

Document reference: RED-HLE-XX-XX-RP-U-500-002-Ventilation Extraction and Odour Statement -RevP01

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Executive summary

Project RED is a new build extension adjacent to the existing Emergency Department at Manchester Royal Infirmary – as marked in red on the image below.

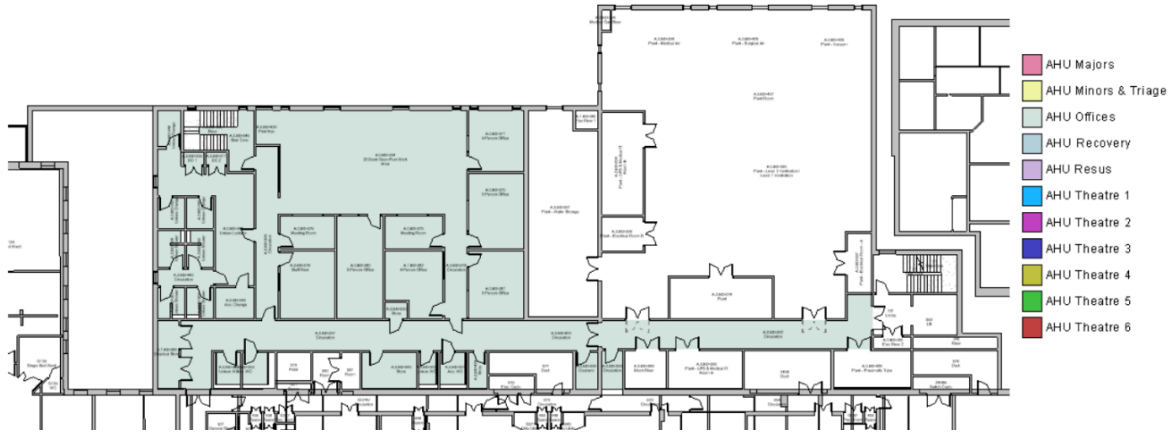


The development will comprise of new facilities to support the existing clinical function namely; a new ED department. The images below show the new departments and the split of air handling plant at each floor level.

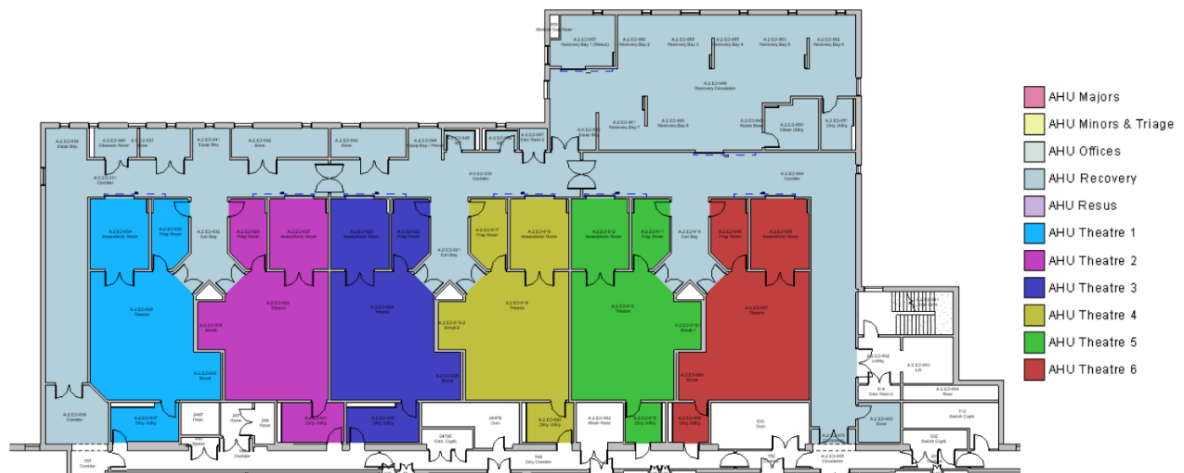
Level 0 Floor - Resus, Majors, Minors



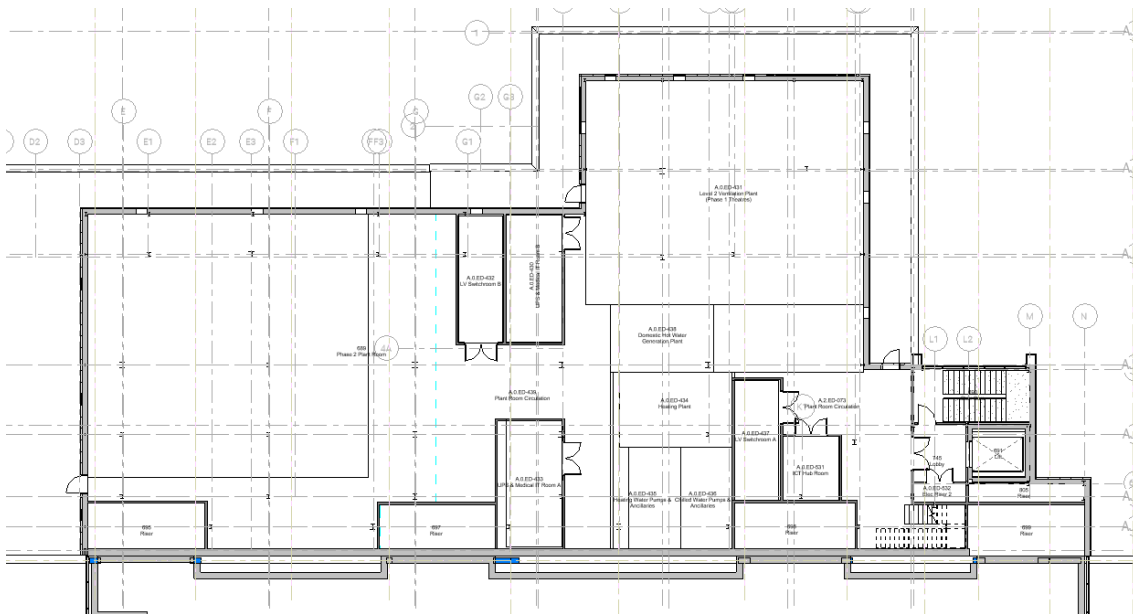
Level 1 – Admin and Plantroom



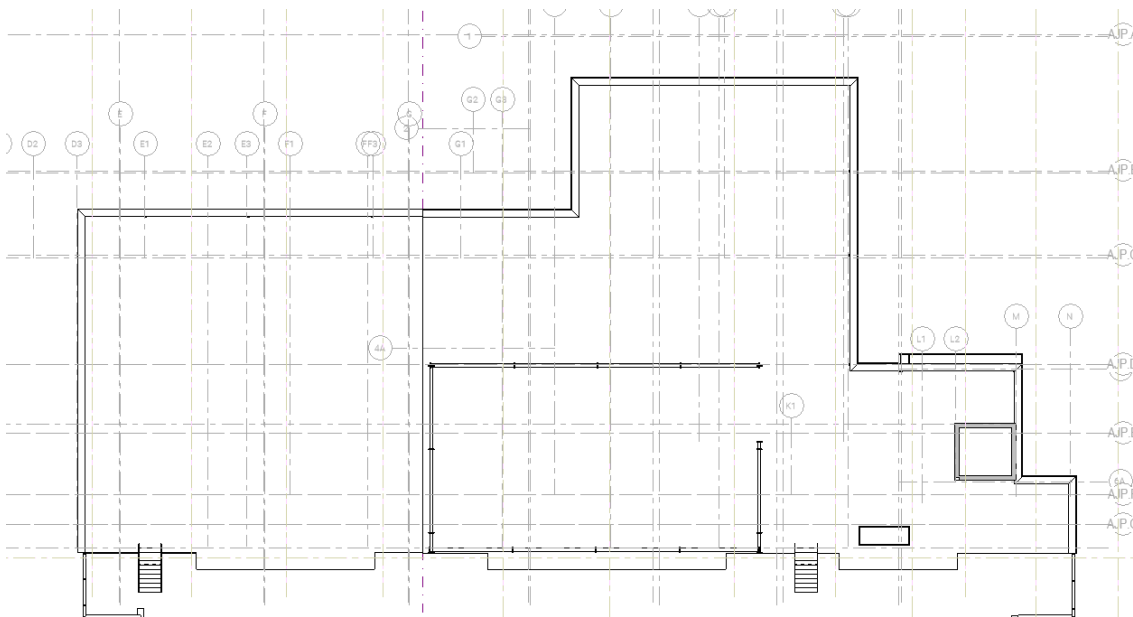
Level 2 – Operating Theatres



Level 3 – Plantroom



Roof Level – Plant



Ventilation Strategy

Project RED will be a fully mechanically ventilated building with filtered air being supplied from new air handling units located within the Level 1 and Level 3 Plantrooms. Each air handling unit will be HTM03-01 compliant and meet the requirements of Part L2A with respect to specific fan powers and the ErP Directive (Energy Related Projects) with respect to energy recovery.

Each air handling unit will include heat recovery devices i.e., plate heat exchangers and supply and extract fans will comprise of high efficiency motors supplied with variable speed drives.

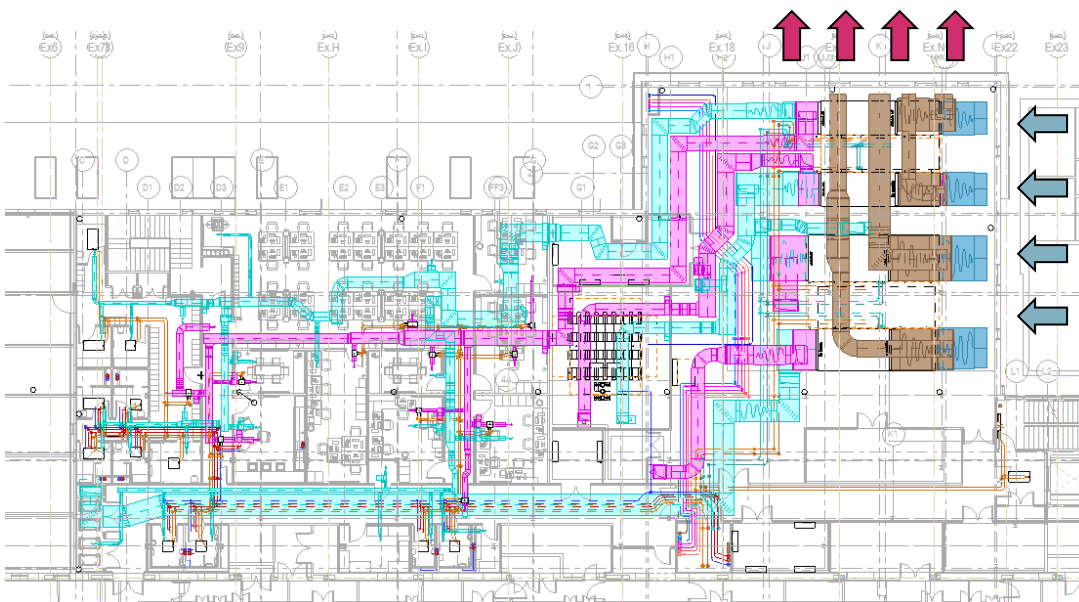
The design and installation of ventilation systems will be developed in line with the following current standards, applicable at the time of submission for Planning:

- Current Building Regulations Approved Documents
- CIBSE Guides
- Health and Safety at Work Act
- Health and Technical Memorandums (HTM's)
- Health Building Notes (HBN's)
- Health Guidance Notes (HGN's)
- Manchester City Council planning conditions and requirements
- All relevant British Standards and Codes of Practices
- All ventilation systems will be specified to meet the acoustic requirements set out in the Acoustic Planning Report.

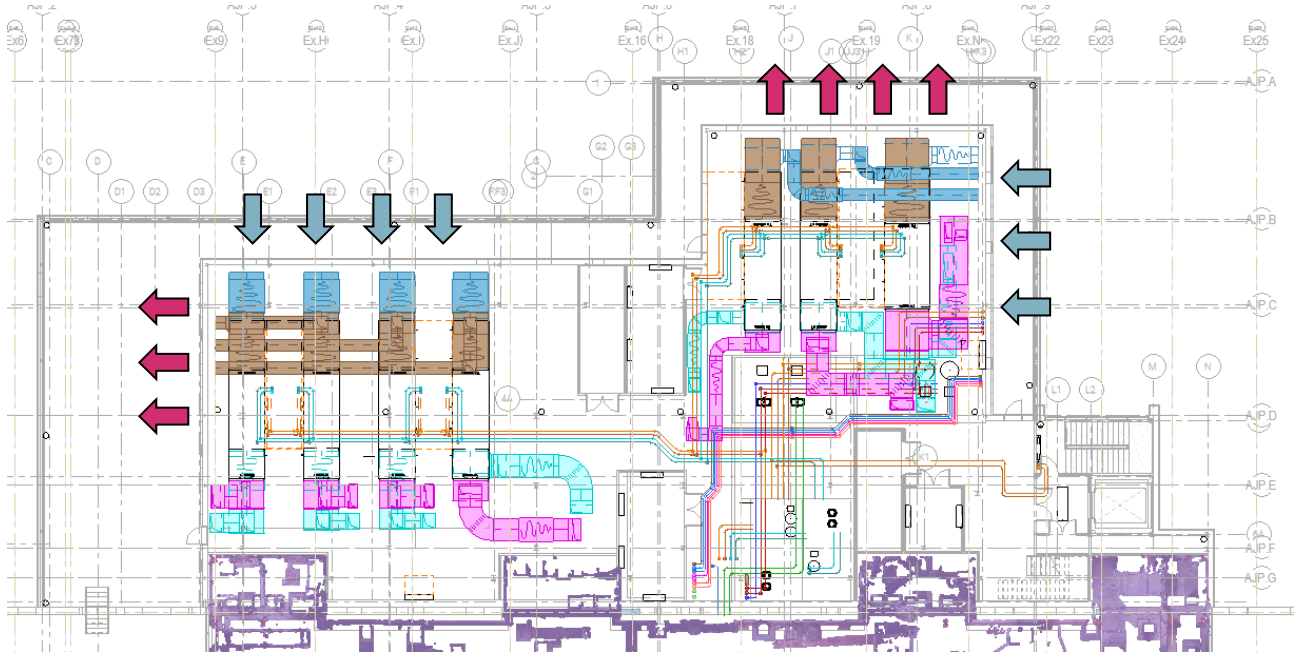
The ventilation plant serving Project RED will be designed to operate 24 hours per day except for the Admin Department where it is anticipated this department will operate on normal office hours. Where Operating Theatres are not being used, the air handling units serving these Theatres will operate on a reduce speed i.e., set-back mode, and remain at this speed until they are required for full use via the surgeons control panel located within the Theatres.

The plantrooms have been designed to include designated air intake plenums and exhaust air plenums, thereby drawing in air from one façade and exhausting air through an alternate façade to ensure no cross contamination of air exhaust to air intake.

Level 1 – Admin and Plantroom

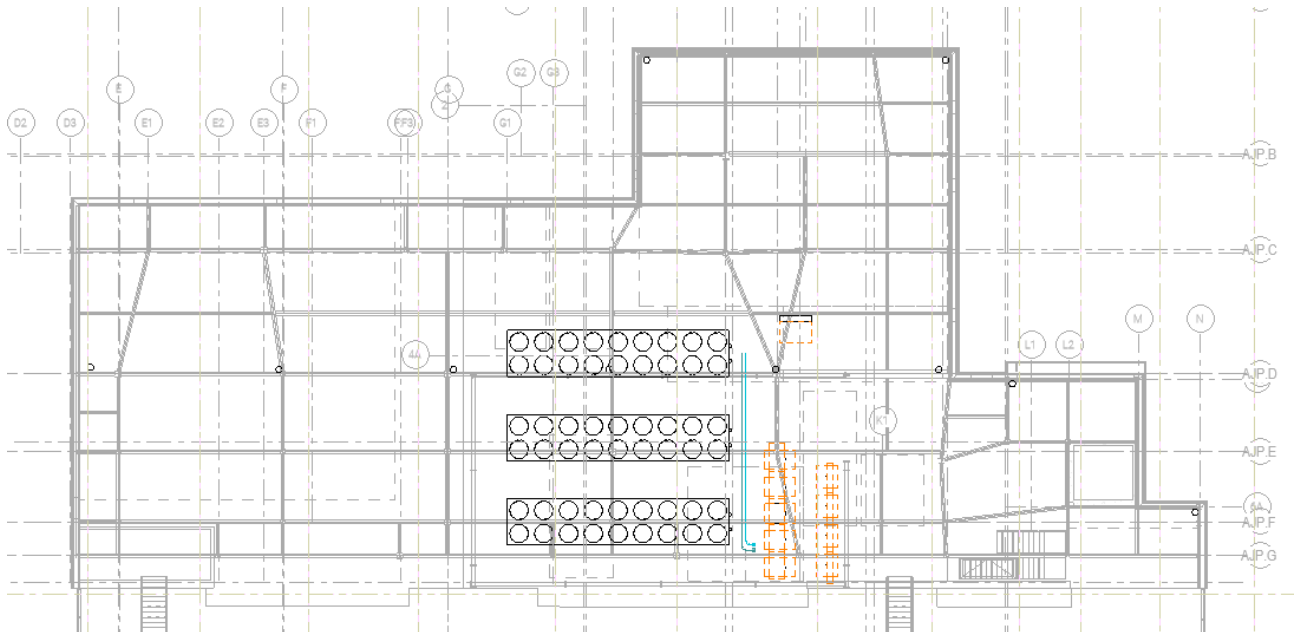


Level 3 – Plantroom



All air handling units will include filtration to HTM03-01 through the inclusion of G4 grade panel filters on the air inlet to the units and F7 grade filtration in the supply air prior to the ventilation ductwork serving the various departments. In addition, the return air will include G4 grade panel filters prior to discharging to atmosphere.

Roof Level



New external chillers and condensing units will be located at roof level, suitably screened and open to atmosphere. The chillers will be energy efficient, incorporating variable speed compressors, meeting the requirements of Part L2A for the seasonal energy efficiencies. The chillers and screening will be selected to meet the requirements of the Acoustic report and Planning conditions.



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