



Ducie Street Development

Planning Report Ventilation Strategy Statement

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Document History

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Approvals

This document requires the following approvals.

Signed approval forms are filed in the Management section of the project files.

Name	Signature	Title	Date of Issue	Version
Craig Woods	C. Woods	Director	26/01/2022	P1

Distribution

Name	Organisation	Role



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1.0 Introduction

The proposed development is a new build part 7 storey and part 8 storey residential building comprising approximately 41 no. apartments.

The design and installation of ventilation systems will be developed in line with the following:

- Current Building Regulations Approved Documents
- CIBSE Guidebooks
- Health and Safety at Work Act
- Manchester City Council planning conditions and requirements
- All relevant British Standards and Codes of Practices.

The development also includes DDA parking provision, bin store, bike store and circulation areas.

The Ventilation systems are as described below.

System Objectives;

To provide complete, energy efficient, fully working, and balanced ventilation system to the development that can:-

- Deliver sufficient outdoor fresh air to occupants;
- Deliver good indoor air quality;
- Ensure acceptable internal noise levels are not exceeded;
- Assist in the removal of heat gains;
- Remove odours, contaminants and moisture;
- Avoid cold draughts;
- Provide an easily controlled and maintainable system;
- To prevent cross infection (by full fresh air and negative pressure regime);
- To recover heat from the exhaust air stream for re-use in the fresh air supply.
- Comply with Part F, ErP CIBSE Guides

The ventilation strategy, location of plant areas, proximity to external noise sources and selection of internal systems shall all be carefully considered from an acoustic perspective with particular attention to those areas which are very noise sensitive.



2.0 Residential Apartments

Continuous mechanical supply and extract incorporating a heat recovery system will provide ventilation to the Residential Apartments in accordance with the requirements stated in Building Regulations Approved Document Part F – Ventilation.

The design proposes that a Mechanical Ventilation Heat Recovery (MVHR) unit will be accommodated in each apartment. Supply air will be provided to the Lounge and Bedrooms with extract ventilation from the Bathrooms and Kitchens. A low velocity insulated ductwork system will distribute the air within the Residential Apartment.

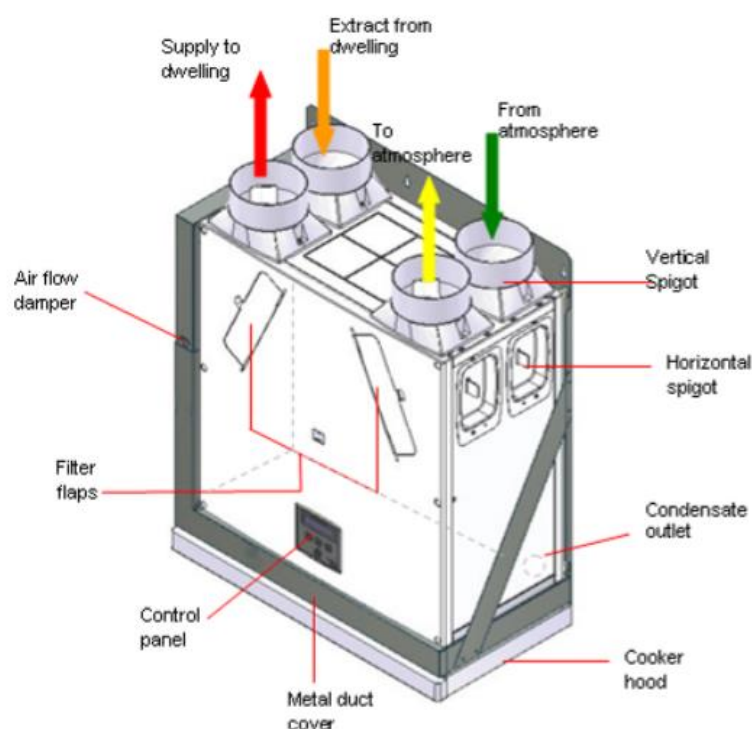


Figure 1 : Typical MVHR Unit

Intake and exhaust louvres will be installed at high level in the external façade and require separation to minimise the risk of cross-contamination of the air streams.

Provision for purge ventilation shall be satisfied by way of suitably sized opening windows and balcony doors within all dwellings to achieve the equivalent of 4 air changes per hour. These opening windows shall also be utilised to mitigate the effects of summertime overheating within the development.

Subject to an acoustic report/window's openable areas/CIBSE TM59 and requirements defined therein – it is envisaged that limitations could potentially affect the natural ventilation strategy.



In this case – the MVHR units shall be sufficiently sized to accommodate an increased ventilation rate accordingly to satisfy requirements.



3.0 Bin Store Ventilation Systems

The bin store shall be served by means of duct mounted extract fans and shall discharge to atmosphere via external wall louvres.

Make up air shall be provided via ventilation louvres.



4.0 General Office/Communal Ventilation Systems

Fresh air shall be delivered to the office/communal areas from the landlord's mechanical air handling systems. Ceiling mounted plant shall condition the air to be delivered within a controlled temperature range with final conditioning via the internal fan coil units.

Systems shall comprise ducted high efficiency heat recovery mechanical supply and extract ventilation systems, functioning on a constant speed basis to maintain air quality on zone occupancy time programs for the building.

The AHUs shall incorporate variable speed fans and controls to permit accurate commissioning and seven-day time programming and system and fault investigation. Duct mounted Electric Heater Batteries shall be installed on the Supply Air Ductwork from the MVHR unit, to provide tempered air to the occupied spaces. Air intake and exhaust connections shall be connected to external wall louvres.



5.0 Smoke Ventilation

The smoke ventilation requirements for the project will be developed throughout the design process with the appointed Fire and Life Safety Consultant.

All proposals will be reviewed with the Fire and Life Safety Consultant and Building Control Officer as the design progresses.