

Ancoats Mobility Hub

Ventilation Statement

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Glossary

Term	Definition
MCC	Manchester City Council
MVHR	Mechanical Ventilation Heat Recovery
PVC	Polyvinyl Chloride
AOV	Automatic Openable Vent
PIR	Passive Infrared Sensor (presence detector)
ACH	Air Changes per Hour

1 Introduction

This ventilation strategy document has been produced in order to communicate the basis of design and provide a description of the main ventilation systems proposed for the Ancoats Mobility Hub development in the Back of Ancoats, Manchester. This document has been produced as a requirement of the Manchester City Council (MCC) planning process.

1.1 Context

BuroHappold Engineering have been appointed by Manchester Life Strategic Development Company to undertake MEP design works for the proposed Ancoats Mobility Hub development. The 8 storey development will include 408 car parking spaces, 150 cycle parking spaces, a ground floor retail unit and a delivery hub.

1.2 Site Description

The Site covers an area of approximately 0.33 ha. in total and is bounded by Poland Street to the west, the City Court Trading Estate to the South, Crown Industrial Estate to the North and Ancoats Green to the East. The site can be accessed by pedestrians and vehicles via Poland Street. The Site is currently occupied by low-rise, multi-tenanted industrial estate units and hardstanding. Modern industrial units lie to the north and south of the Site with the residential neighbourhood of Miles Platting further beyond to the east. The Rochdale Canal is located 0.2km south of the Site.

1.3 Description of Development

Development of land bounded by Poland Street to the west, the City Court Trading Estate to the south, Crown Industrial Estate to the north and Ancoats Green to the east to deliver a mobility hub development of up to 8 storeys including 150 cycle parking spaces, 408 car parking spaces, a ground floor retail unit and a delivery hub.

2 Basis of Ventilation Design

To ensure the quality of outside air drawn into the building, a number of factors such as recirculation of exhaust air or intake of contaminants have been considered. Extract discharges and air intakes will face different directions or be spaced adequately, where feasible, in order to minimise cross contamination and short-circuiting.

Smoke ventilation systems shall terminate at roof level where possible, and in building elevations clear of emergency escape routes where not.

Natural ventilation systems have been utilised where possible to perimeter plant spaces, refuse spaces and cycle stores via louvre openings within the facade.

2.1 Air Permeability

Design Criteria	Reference
Building will be designed to meet an air tightness level of 3 m ³ /s per m ² of building envelope at 50 Pa pressure differential	To meet BSRIA air tightness specification, an air leakage test will be carried out to satisfy Approved Document Part L1 requirements.

2.2 Ventilation Standards

Landlord Areas	
Vehicle Parking Areas	Naturally Ventilated
Ground Floor Commercial Unit	"Shell and Core" – Ventilation system to be installed by tenant during fitout works
Ground Delivery Hub	12 l/s per person
Ground Floor Delivery Counter	10 l/s per person
Ground Floor Pickup Lockers	2ACH
Refuse Stores	Naturally ventilated where adjacent external facade, otherwise ventilated via Mechanical Ventilation with Heat Recovery units
Lift / Stair Lobbies	Naturally ventilated and natural smoke shaft
WC's	10ACH
Staff Mess	6ACH
Cycle Changing	10ACH

Plant Rooms	
LV Switch Rooms	Naturally ventilated
ENW RMU Room	Naturally ventilated
Water tank rooms	Naturally ventilated

3 Description of Ventilation Systems

3.1 Vehicle Parking Areas

Ventilation to the vehicle parking areas is to be provided via natural means, in accordance with the requirements of Approved Document F. A minimum of 1/20th of the floor area shall be provided as an aggregate equivalent area, with a minimum of 25% provided on two opposing walls.

3.2 Commercial Unit

The ground floor commercial unit is designed to a “shell and core” level of fit-out, therefore the tenant occupying the space will install a mechanical ventilation system to suit their usage requirements. Louvres have been provided within the façade above windows and doors to enable the future tenants to connect their ventilation equipment during their fitout works. Additionally, space has been allocated within risers and at roof level for tenant fitout mechanical equipment.

It is proposed that the commercial unit will house a café, with the potential for food warming rather than cooking therefore requiring reduced ventilation requirements compared to a restaurant. Ventilation for the café is proposed to be provided locally via connection to louvres within the façade, with the tenant ensuring that the potential for odours or noise are appropriately controlled.

3.3 Circulation Spaces

Circulation spaces such as corridors and stairwells will be ventilated by the passive movement of air throughout the building.

3.4 Plant Areas & Bin Stores

Plant areas and Bin Stores will be naturally ventilated through the use of louvred openings within the façade where connectivity to the external environment is practicable. Local mechanical ventilation will be provided to prevent stagnation where connectivity cannot be achieved.

3.5 Ground Floor Delivery Hub / Pick Up Lockers / Delivery Counter / Staff Mess

The ventilation systems within the ground floor Delivery Hub, Pick Up Lockers, Delivery Counter and Staff Mess will be provided through the use of local MVHR units mounted on the underside of the soffit, ducted to the façade where they will terminate in louvres installed over windows and doors within the façade.

The ground floor vehicle route of the Delivery Hub is to be naturally ventilated in accordance with the requirements of Approved Document F. A minimum of 1/20th of the floor area shall be provided as an aggregate equivalent area, with a minimum of 25% provided on two opposing walls. Impulse fans will be provided to assist air movement.

3.6 Ground Floor Cycle Storage / Cycle Changing / WC's

The ventilation systems within the ground floor Cycle Storage will be provided through the use of local MVHR units mounted on the underside of the soffit, ducted to the façade where they will terminate in louvres installed over

windows and doors within the façade. Separate dedicated WC extract fans shall be provided within the WC's and Cycle Changing Area, ducted directly to the façade where they shall terminate within a louvre within the façade.

4 Conclusion

The ventilation strategies described above have ensured Part F of the building regulations are met and that the air quality and occupant comfort within the building is satisfactory.

Any negative impact of ventilation systems on accommodation within the proposed development or neighbouring properties has been mitigated by:

- Ensuring all ventilation systems do not exhaust onto any neighbouring buildings or locations where people are likely to be present.
- Providing openable windows/doors within habitable spaces to mitigate the risk of overheating during summer months.
- Installing noise attenuation equipment on ventilation plant in order to comply with the acoustic criteria.
- Ensuring smoke shafts terminate above or away from any emergency escape routes.

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