



LINEAR GROUP

**Number One Lord Street
Residential Scheme**

**Planning Submission
Ventilation Statement**

January 2026

Issued for Information

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A. INTRODUCTION

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A.1. Purpose of the Document

The purpose of this Ventilation Statement is to outline the proposed ventilation strategy for the development and to demonstrate how it provides suitable internal environmental conditions for future residents, while ensuring compliance with national and local planning requirements. The statement sets out the principles for achieving adequate indoor air quality, minimising energy use, and safeguarding residential amenity in accordance with Approved Document F of the Building Regulations, CIBSE guidance, and Manchester City Council's planning policies. It also considers the site context, including local air quality, external noise environment, and building form, to confirm that the proposed approach is both practical and appropriate for a high-rise residential scheme.

A.2. Scheme Overview

The Proposed Development will deliver 251 homes within a 24-storey residential building, alongside resident amenities, landscaping, cycle parking, servicing, refuse storage, plant areas, and improvements to the surrounding public realm.

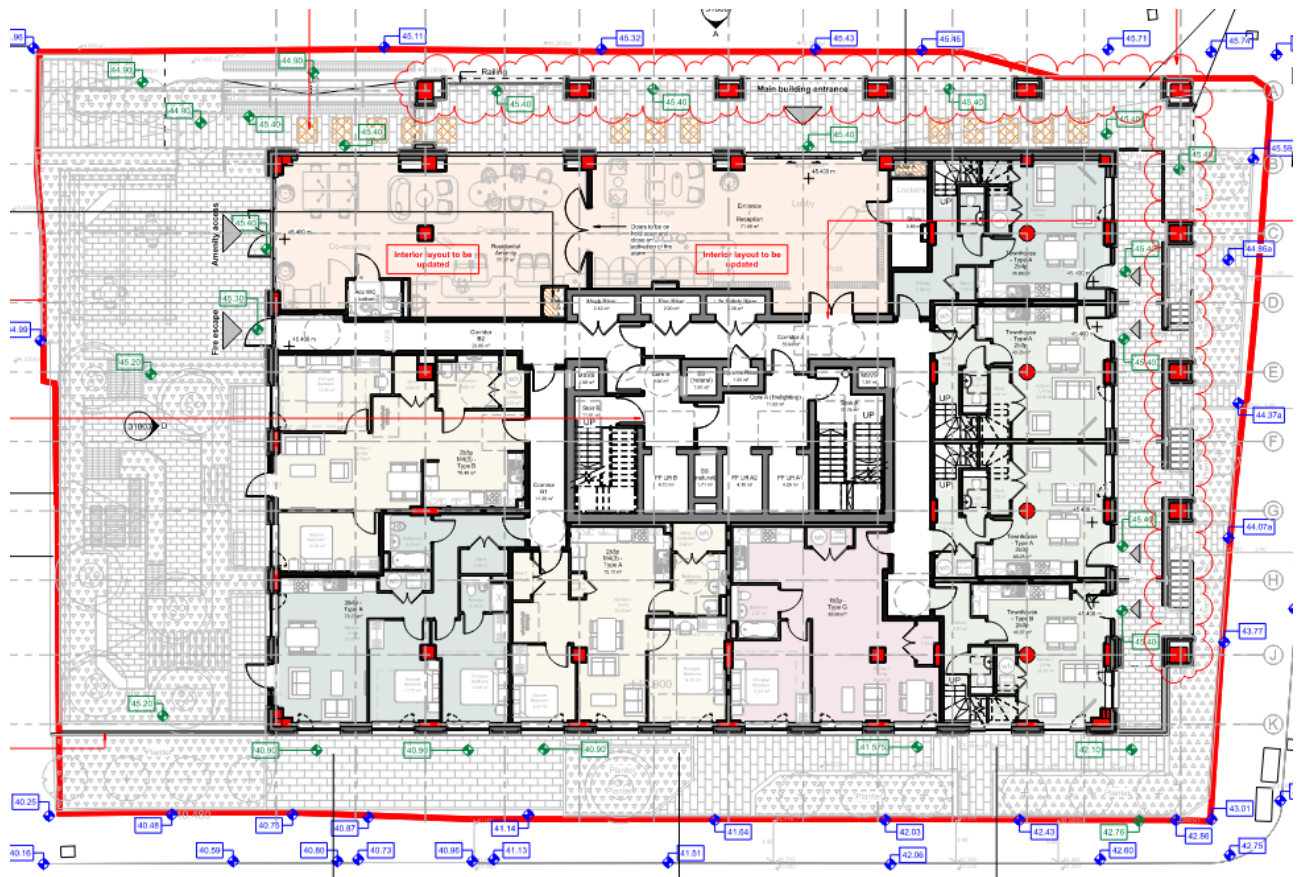


Figure 1.1 Extract of Proposed Site Plan By AEW

B. VENTILATION STRATEGY

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Any ventilation strategy considered for this development must provide the extract rates stated in the table below to the apartments as a minimum to comply with Part F of the Building Regulations.

Table B.1 Minimum Extract Ventilation Rates for Continuous Extract Systems

Room	Extract Rate (l/s)
Kitchen	13
Utility Room	8
Bathroom	8

The sum of all continuous extract ventilation within a dwelling must be equal to or higher than the rates stated in the table below for a given size of dwelling.

Table B.2 Minimum Whole Dwelling Ventilation Rates

Number of Bedrooms	Minimum Extract Ventilation Rate (l/s)
1	19
2	25
3	31

B.1. Mechanical Ventilation & Heat Recovery (MVHR)

Apartments will use MVHR units to support the TM59 internal temperature control strategy and local authority carbon reduction requirements. The MVHR system continuously extracts moist, stale, and polluted air, passing it over a heat exchanger that recovers about 85% of the heat. This recovered heat warms the incoming fresh air, which is then supplied to bedrooms and living rooms. To prevent overheating during extreme summer months, MVHR systems will be sized to provide boosted ventilation rates of up to 70 l/s per apartment, subject to final overheating analysis. Intake and exhaust ducting will be insulated along their entire length.

Each apartment will be provided with a wall-mounted cupboard type unit with a plate heat recuperator and summer by-pass will be used, located within the apartment's utility cupboard. MVHR will be controlled by a timed overrun with a manual boost button in the kitchen and via the light switch in the bathrooms. Ducting will be routed above ceilings where possible, terminating via weatherproof louvre soffit for fresh air intake and extract air discharge.

Attenuation will be provided to intake and exhaust duct connections at the façade and the MVHR unit, with acoustic lagging between the façade connection and façade attenuators where needed. Final requirements will be confirmed by the project acoustician after an acoustic survey.

B.2. Cooling Module

To mitigate the risk of overheating during extreme summer months, each apartment will be provided with a cooling module box mounted directly on top of the MVHR unit. The requirement for cooling module boxes will be subject to the outcome of the Part O overheating assessment.

The cooling module functions as an integrated pre-conditioning unit, providing a modest level of supply-air cooling without the need for a full comfort-cooling system. The module reduces

the temperature of incoming supply air to help maintain indoor thermal comfort during peak summer conditions.

Its operation is demand-controlled via the apartment's MVHR control strategy, enabling the module to activate only when internal temperatures exceed a pre-set threshold.

The cooling module will be selected to ensure compatibility with the MVHR airflow rates, system resistance, and overall acoustic criteria for the scheme.

B.3. Kitchen Cooker Hoods

Kitchens will be equipped with recirculating cooker hoods as specified by the client. These units incorporate grease and odour filters to reduce airborne particulates and improve indoor air quality during cooking activities. As the cooker hoods do not provide direct extract to outside air, they operate independently of the primary ventilation strategy and are intended to supplement, rather than replace the mechanical extract provided via the MVHR system.

The MVHR system will remain the primary means of continuous kitchen extract, ensuring compliance with Approved Document F extract rate requirements under both normal and boost modes. The recirculating hood provides a localised air-cleaning function while avoiding the need for duct penetrations through the building façade.

B.4. Purge Ventilation

In addition to the continuous mechanical ventilation systems, provision for purge ventilation is required to rapidly remove contaminants such as indoor pollutants, excess heat, or stale air. This is undertaken in accordance with the requirements of Approved Document F, with consideration also given to Approved Document O where purge ventilation supports mitigation of summertime overheating.

As some of the proposed window design does not provide sufficient openable free area to meet the minimum Part F purge ventilation requirement through natural means alone, a combined approach will be adopted. Purge ventilation will be delivered through a combination of openable windows and enhanced mechanical ventilation via the MVHR system.

Each apartment will therefore rely on the available openable window area to provide a proportion of the required purge airflow, with the remaining shortfall supplemented through the MVHR unit operating in purge or summer boost mode. This mechanical boost function will deliver elevated extract and supply rates, enabling the overall purge ventilation requirement to be achieved even where window-opening constraints exist.

Window opening configurations, restrictors, and acoustic performance will be reviewed during next design stage to maximise natural purge capacity, while ensuring regulatory compliance. The mechanical component of the purge strategy will be coordinated with system sizing, fan performance, and acoustic criteria to ensure effective and comfortable operation for occupants.

This combined purge ventilation strategy ensures that the development remains compliant with the intent of Approved Document F while providing a practical and robust approach to maintaining indoor air quality and removing excess heat/odour under abnormal conditions.

B.5. Amenity Areas

Amenity areas will be provided with dedicated mechanical ventilation via heat recovery units mounted at high level within the space. These units will deliver continuous supply and extract ventilation to maintain good indoor air quality, reduce the build-up of odours, and support overall thermal comfort within shared resident areas.

Fresh air intake and stale air exhaust will be routed through independently ducted pathways connected to external strip louvres located at high level above the windows. The louvres will typically be 400 mm in height with a 50% free area, providing sufficient airflow capacity.

The heat recovery units will be selected to deliver appropriate airflow rates in accordance with Approved Document F for non-habitable communal spaces and will incorporate high-efficiency heat exchangers to minimise energy losses during operation. Acoustic performance, maintenance access, condensate management, and fire strategy requirements (including any compartmentation or damper provisions) will be addressed during next design stage.

B.6. Refuse Stores

Refuse storage areas will be mechanically ventilated to control odours, maintain acceptable air quality, and comply with the requirements of Approved Document F and relevant local authority waste storage guidance. Ventilation will be achieved via a dedicated mechanical extract system discharging through a louvre positioned on the external façade. Extract ventilation will be provided at a rate equivalent to 6 air changes per hour, ensuring effective removal of stale and odorous air under normal operating conditions.

Make-up air for the refuse store will be supplied through a combination of high-level façade mounted louvre and full height louvred doors, allowing passive air inflow to balance the mechanical extract rate. This arrangement ensures that the store remains under negative pressure, reducing the risk of odours migrating into adjacent spaces.

B.7. Cycle Stores

Cycle storage areas will be ventilated using a dedicated MVHR system to maintain air quality, manage humidity, and prevent the build-up of odours within the space. The MVHR unit will provide continuous supply and extract ventilation, ensuring a balanced and energy-efficient approach suitable for an enclosed ancillary area.

Fresh air intake and exhaust air discharge will be routed through external façade louvres, the location and appearance of which will be coordinated with the landscape architect to maintain consistency with the overall landscape design. The MVHR unit will be selected to provide airflow rates in line with Approved Document F guidance for non-habitable ancillary spaces, ensuring an appropriate air change rate while recovering heat to improve overall energy performance.

B.8. Bin Store and Cycle Store Lobbies

To satisfy the fire safety requirements of Approved Document Part B, the bin store and cycle store lobbies will be provided with a permanent ventilation route designed to prevent the accumulation of smoke and combustion products in the event of a fire. These spaces require permanent natural openings as they adjoin ancillary areas with elevated fire loading and potential sources of ignition.

A continuous passive vent route will be provided from the lobby at basement level to a high-level external façade louvre at ground floor. This vertical pathway allows smoke and hot gases to rise and discharge to atmosphere, reducing the risk of smoke migration into adjacent escape routes. The permanent opening will be sized to comply with Part B guidance for unprotected ancillary rooms, ensuring an equivalent free area that provides sufficient cross-ventilation and smoke relief.

B.9. Smoke Ventilation

A combination of natural and mechanical smoke ventilation systems will be installed in all necessary cores, adhering to the standards set by Approved Document B and BS 9991 guidance. In corridors where travel distances are compliant, smoke ventilation will be achieved either naturally or mechanically. The dimensions of the smoke shaft risers will follow the recommendations of the fire engineers.

Each smoke extract shaft will serve the connected corridors and will terminate at roof level with a duty/standby fan setup. Each serviced corridor will feature a shaft wall-mounted damper and louver arrangement. The systems will be controlled by locally mounted smoke and heat detectors, which will also enable the opening of the adjacent head-of-stair ventilator/smoke inlet vent.

B.10. Plant Rooms

Basement plant rooms will be provided with a dedicated mechanical ventilation system served by a ceiling-mounted MVHR unit. The system will deliver continuous supply and extract ventilation to maintain acceptable indoor air quality in accordance with the requirements of Approved Document F for non-habitable ancillary spaces.

The MVHR unit will incorporate a high-efficiency heat exchanger to minimise energy losses during normal operation while providing an appropriate level of heat recovery for the basement environment. Fresh air intake and exhaust air discharge will be routed via ductwork to external façade louvres at high level.



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