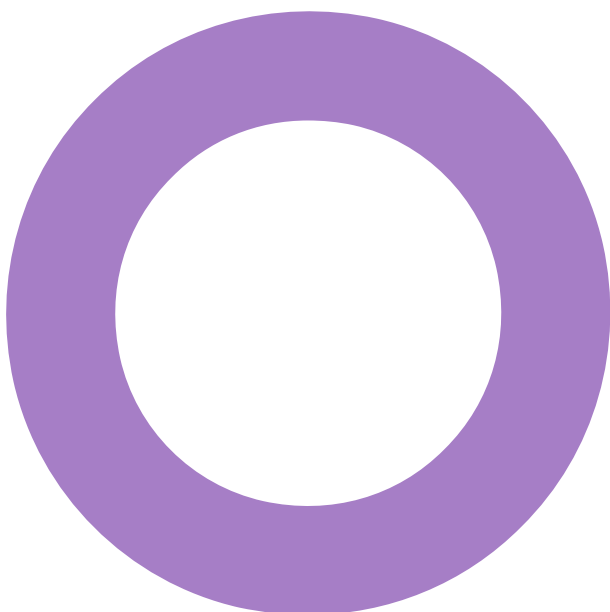


**Albert Bridge House.
Manchester.**
Oval Properties Limited.

MEP ENGINEERING
VENTILATION STATEMENT

REVISION 00 – 11 APR2025



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	11 Apr 2025	First issue	PT	NB	NB

This document has been prepared for Oval Properties Limited 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: 07/10737

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1. Introduction.

This statement has been prepared by Hoare Lea to support the planning application for Albert Bridge House and intended to communicate the principles of the ventilation strategy for the project.

The ventilation strategy has been designed based on the following principles:

- Building Regulations Approved Document Part B
- Building Regulations Approved Document Part F
- British Council for Offices (BCO) Guide to Specification (2022)
- Acoustic mitigation measures to comply with the acoustic design criteria and minimise any impact on the surrounding areas
- Air quality guidance
- BREEAM “Excellent” accreditation – air intake and exhaust locations to have a minimum separation of 10m
- Vitiated exhaust air locations consider areas of occupation

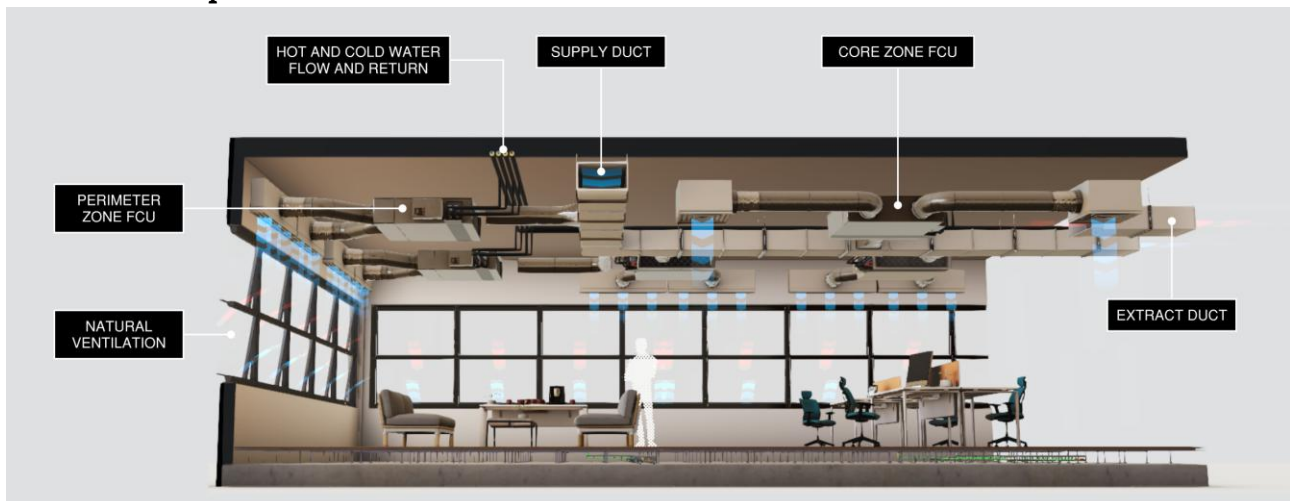
2. Project description.

The site covers an approximate area of 0.9ha and is bound by the River Irwell to the North, Bridge Road to the West and St. Mary’s Parsonage to the East, beyond which lies a mix of uses including commercial and residential uses. The Proposed Site includes the following range of uses:

- • Class E(g) – Office
- • Other Class E – Commercial/Retail/F&B Units
- • Class C3 – Residential

3. Ventilation strategy.

3.1 Office floorplates



Ventilation Strategy Diagram - Typical Office Floorplates

The fresh air supply to the office areas will be drawn from atmosphere via AHU's at roof level and will be supplied to the office floor plates via ductwork branches terminating at diffusers/supply air grilles within the spaces. Stale air will be removed from the office floor plates via dedicated exhaust air duct branches extracting out to atmosphere via exhaust air louvres on the façade.

The systems shall be capable of operating in a mixed mode, whereas if the occupants open the windows, the mechanical ventilation system shall modulate down in order to maintain good air quality whilst also ensuring energy usage is reduced. This will be achieved via monitoring Carbon Monoxide levels to control the supply air rate to perimeter zones.

Fresh air (designed to a minimum of 14 l/s/p based on 1 person per 10m²). The design parameters for these areas are based on a summer design temperature of 24°C +/- 2°C (no humidity control) and a winter design temperature of 21°C +/- 2°C (no humidity control).

3.1.1 Office Building Block C

The offices fresh air requirements in these plots will be met via multiple centralised AHU's installed at roof level. The supply and extract AHU's will provide heat recovery via thermal wheel to temper incoming fresh air and reduce the required heat input of the heating system.

3.1.2 Office Entrance/Reception Area

The reception areas will be naturally ventilated by the transfer of air via the main entrance doors although provision has been made for ventilation louvres that would allow a ceiling void mounted MVHR to provide supply and extract ventilation.

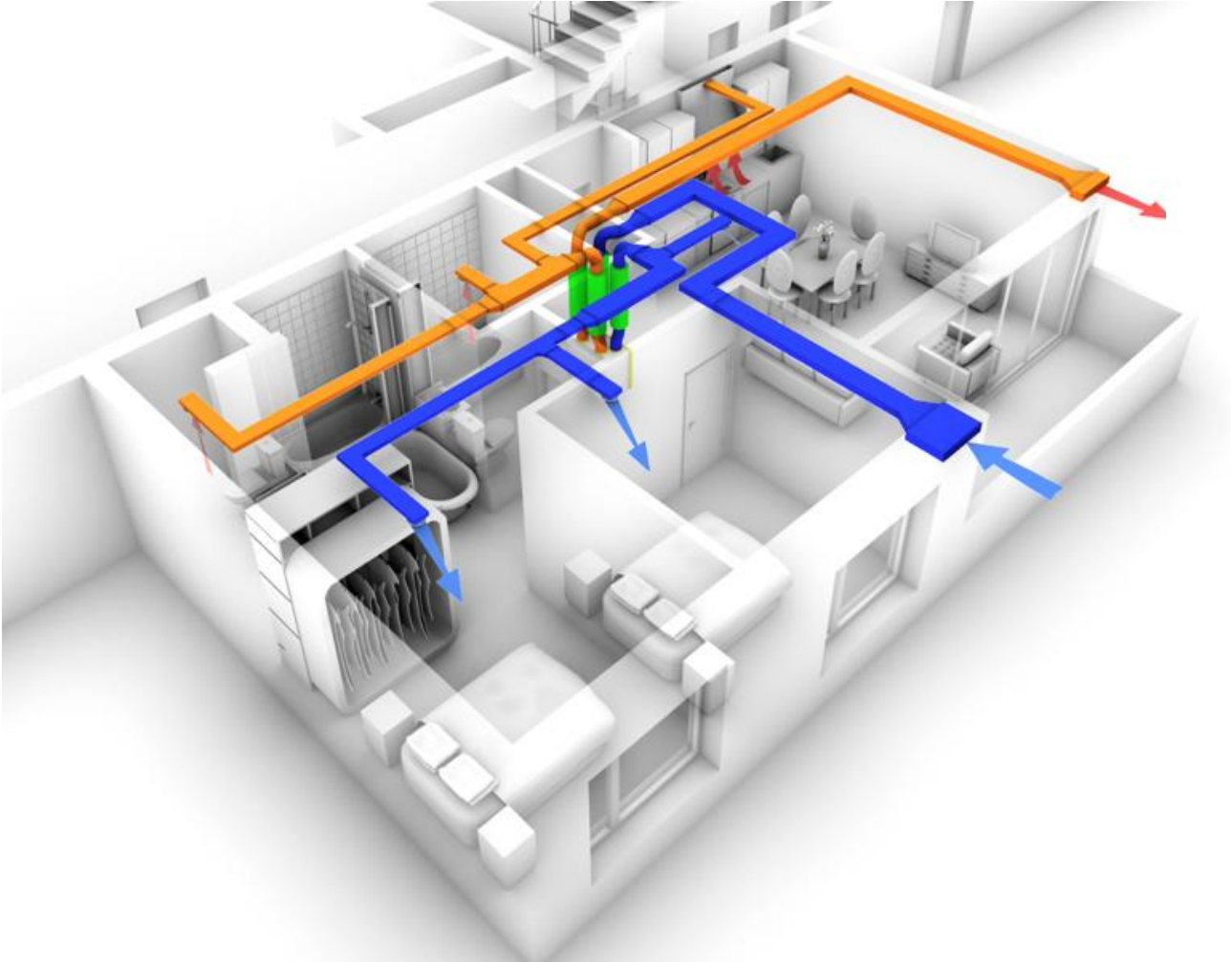
3.1.3 Office Communal Toilets

Local extract ventilation units located at high level within the toilet area on each floor will extract air (designed to a minimum of 10ACH) from the urinal and WC areas. Exhaust will be at roof level via ducts running to roof level at atmosphere. Supply air to the lobbies and wash hand basin and lobby areas will be via the centralised AHU's at roof level, with ducted connections taken from the landlord's ductwork and terminated within these spaces. The design parameters for these areas are based on a winter design temperature of 18°C minimum (No humidity control).

3.1.4 Office Communal Showers and Changing Areas

Local ventilation units located at high level within the area will supply fresh air and extract vitiated air (designed to a minimum of 6ACH). Fresh air intake and exhaust will be via perimeter louvres at ground floor level with heat recovery from the extract air. The design parameters for these areas are based on a winter design temperature of 18°C minimum (No humidity control).

3.2 Dwelling Ventilation Systems



Ventilation Strategy Diagram – Mechanical Ventilation with Heat Recovery (MVHR) and Tempered Air Unit

Each dwelling within Block's A & B shall be provided with a dedicated continuous mechanical supply and extract ventilation with heat recovery (MVHR) unit. Extract will be taken from bathrooms, en-suites, utility cupboards and the kitchens with supply air being distributed to main habitable rooms (living rooms and bedrooms).

Insulated ducts will be routed to the façade locally for fresh air intake and for the discharge of exhaust air. The termination detail will be integrated in a discrete manner within the façade and shall have an integrated insect mesh to prevent ingress of foreign matter to the dwelling.

Ventilation to the bathrooms shall be boosted via light switch control with run on timer, in addition to this a humidity sensor shall be provided within the MVHR unit to activate the boost mode on detection of high levels of humidity (adjustable).

All residential dwellings shall have recirculating cooker hoods within the kitchens.

Approved Document F has a requirement for purge ventilation, in order to allow the removal of pollutants, such as burnt toast and paint fumes etc, via a short-term higher rate ventilation method. To satisfy this requirement, openable windows will be provided to each habitable space. This will also have the benefit of allowing the occupants to open a window to enhance room ventilation during suitable external conditions.

The Building Regulations Part O requires each dwelling to demonstrate that it will not 'overheat' during the summer months of May to September. Openable windows are not to be relied on for summertime ventilation due to acoustic issues. A TM59 assessment of a representative sample of dwellings has been carried out and the overheating analysis has shown that although natural ventilation is technically compliant, where dwellings cannot utilize natural ventilation via openable windows due to acoustic concerns, these will need to be provided with an MVHR with a boost flow rate and a tempered air unit to reduce the supply air temperature. This will provide an element of cooling to the dwelling supply air to assist in reducing peak temperatures in the dwellings where windows are required to be closed.

3.3 Common Corridors Smoke Control (Plots A, B & C)

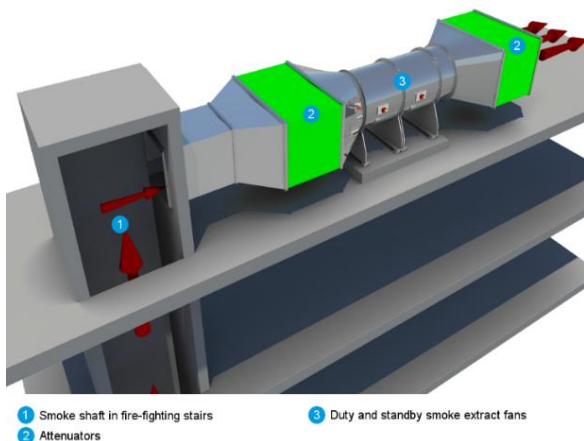
A mechanical smoke system shall be provided to achieve equivalence to the natural shaft for buildings described in Approved Document B (ADB) for code compliant corridors and will demonstrate effective smoke clearing for extended corridors to satisfy the requirements of the fire engineer.

The smoke extract system shall vary depending on the core and floor level served as outlined in the fire strategy, the principle strategies are outlined below. Each of these systems shall also be used for environmental ventilation with a DX heating/cooling coil provided to temper the supply air.

Single Smoke Shaft

The corridors where this system applies will be provided with mechanical smoke extract ventilation from a single shaft with makeup air provided from a mechanical smoke supply ventilation system from the firefighting lift lobby. On receipt of a fire signal the smoke supply and extract fans on the roof will activate, the smoke dampers on the affected floor will open and the fans will supply and extract air from the corridor to clear the smoke and keep the firefighting lobby smoke free. Access control to the doors shall be disabled and the door to the lift lobby will be drawn open into the corridor by the air movement from the lobby to the extract shaft.

In environmental ventilation mode, air shall be supplied from the environmental fans at roof level, down the smoke extract shaft and into the corridors. Additional environmental dampers will be provided within the ceiling void to directly supply and extract air to/from the ceiling space, mitigating heat build-up. The ventilation of the ceiling voids shall be capable of operating either supplying simultaneously with the corridor dampers or separately, extracting from the ceiling void only. Reversible environmental fans shall be provided for this reason.



3.4 Basements Smoke Clearance (Block A, B & C)

Basement areas will be provided with supply and extract smoke clearance in accordance with the building Fire Strategy and BS:9999 to provide 10 Air Changes per Hour (ACH during fire condition).

3.5 Smoke Lobbies

Where indicated on the fire strategy, lobbies to the communal corridor/escape routes shall be provided with smoke ventilation. It is proposed that these will generally be provided with natural ventilation ductwork to achieve a free area of 0.4m². Where this is not viable, a mechanical system sized at 10 ACH shall be provided.

3.6 Plantrooms and BoH

Ventilation of plantrooms and back of house areas will be via mechanical ventilation or louvres in the façade.

3.7 Bin Stores

Where bin stores are located at ground floor level they shall be ventilated naturally, direct to outside, through louvres in the façade/louvred doors where possible. Where not possible a dedicated extract system sized at 10ACH shall be provided.

3.8 Commercial Units

The commercial units shall be shell and core only and therefore ventilation systems shall not be provided as part of the base build. It is anticipated that the fit out shall include soffit mounted mechanical ventilation with heat recovery units. A louvre strip on the building's façade shall be provided for connection to outside for future tenant installation of such a system. Individual commercial units shall be provided with louvres in the façade to allow their own dedicated ventilation systems to be installed as part of the fit out. This will need to meet the requirements for delivery of fresh air of Building Regulations Approved Document F, whilst also meeting energy and heat recovery standards as laid out within Building Regulations Approved Document L. At the time of design, no allowance has been made for the inclusion of commercial kitchens within the retail units, so measures associated with environmental concerns of air pollution from commercial kitchen vent have been allowed within the design.

3.9 Filtration

The below sets out the filtration that will be applied to the ventilation intakes for each category of space;

Ventilation system	SUP	Supply	Extract
Dwellings	N/A	ISO Coarse 50%	ISO Coarse 50%
Reception and circulation areas	SUP 2	ISO ePM10 50% Pre-filter ISO ePM1 85% Main filter	ISO ePM10 50%
Toilets	N/A	-	ISO ePM10 50%
Changing and shower	SUP 2	ISO ePM10 50% Pre-filter ISO ePM1 85% Main filter	ISO ePM10 50%
Offices	SUP 2	ISO ePM10 50% Pre-filter ISO ePM1 85% Main filter	ISO ePM10 50%
Stores and plantrooms	SUP 3	-	ISO ePM10 50%
Smoke extract	N/A	-	-



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