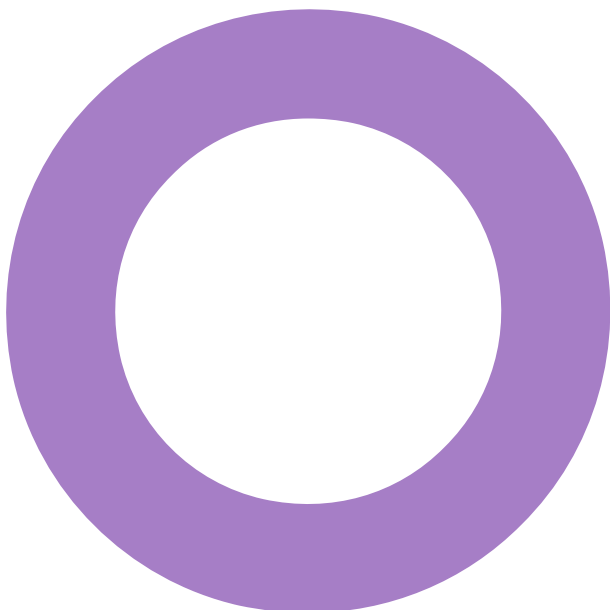


Albert Bridge House. Manchester. Oval Real Estate.

MEP ENGINEERING
VENTILATION STATEMENT

REVISION 01 – 07 OCTOBER 2022



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
0	01 Nov 21	First issue	NB		SD
01	07 Oct 22	Updated with Deloitte comments	NB		SD

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Project number: 07/10329

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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

Demolition of the existing building complex and the construction of a mixed use development comprising an office building of up to 19 storeys, (Class E(g(i)) with ground floor commercial, leisure, food and drink uses (Use Class E (a), (b), (c) and/ or drinking establishment Sui Generis) and, a residential building up to 45 storeys (Use Class C3) with basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, [highways alterations] and other associated works.

3. Ventilation strategy

3.1 Office floorplate

The strategy to ventilate the office floorplates is based on a displacement ventilation system which provides very good air quality and occupant comfort. This will operate in sympathy with a mixed mode strategy when the external conditions permit the openings within the façade to be operated.



Fresh air (designed to a minimum of 16 l/s/p based on 1 person per 10m²) will be distributed via the floor void and exhausted at high level. A number of local air handling units (with heat recovery) will be installed on each floor. The units will be ducted to fresh air intake and exhaust louvres at the perimeter of each floor level. 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).

3.2 Entrance/reception area

The reception area will be naturally ventilated by the transfer of air via the main entrance doors.

3.3 Communal Toilets

Local ventilation units located at high level within the toilet area on each floor will supply fresh air to the wash hand basin and lobby areas, and extract air (designed to a minimum of 10ACH) from the urinal and WC areas. Fresh air intake and exhaust will be via perimeter louvres 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).

3.4 Car Park

The basement car park will be mechanically ventilated. Extract fans will be located in a dedicated plant room, extracting air from the car park through louvres in the facade. Air movement will be promoted across the car park by low-profile soffit-mounted jet fans, ensuring there are no areas of the car park where air remains stagnant. The design flow rates will be based on: 3 air changes per hour (low occupancy), 6 air changes per hour (normal occupancy), 10 air changes per hour (fire condition).

3.5 Commercial Areas

Local air handling units (with heat recovery) units will serve the commercial and amenity areas with fresh air intake and exhaust via perimeter louvres at that level.

Riser allocation will be provided for future kitchen supply and extract ventilation plant.

3.6 Apartments

Apartments will have ventilation provided by continuous mechanical supply and extract ventilation with heat recovery (MVHR) units located in utility cupboards. This approach will allow each apartment to meet the continuous ventilation requirements of the Building Regulations Approved Document F, whilst delivering the thermal efficiency required to comply with the Building Regulations Approved Document L1A and maintain the acoustic integrity of the façade.

3.7 Bin Stores

A dedicated extract system (design based on 10ACH) will remove air from the refuse store with supply air to the space via louvred doors.

3.8 Smoke Ventilation

The buildings include firefighting cores which incorporate a smoke shaft. Smoke extract ventilation will be provided in accordance with the building Fire Strategy and BS:9999.

The basement areas will be provided with smoke extract ventilation in accordance with the building Fire Strategy and BS:9999.

3.9 Plantrooms

Ventilation of plantrooms will be via mechanical ventilation or louvres in the façade depending on the plantroom location. The main heat rejection plant will be installed at roof level in order to maximise plant efficiency.

3.10 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
Apartments	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%
Gym and changing	SUP 2	ISO ePM10 50% Pre-filter ISO ePM1 85% Main filter	ISO ePM10 50%
Social Spaces	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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