

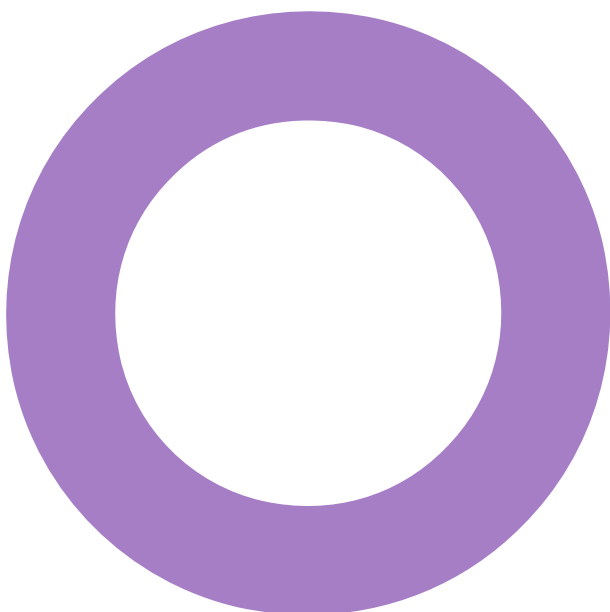
Broad Street Mall Master Plan. Reading.

**Inception (Reading) Sarl (c/o
Moorgarth Group Limited).**

MEP ENGINEERING

VENTILATION & EXTRACTION STATEMENT

REVISION P03 – 04 NOVEMBER 2019



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	12-12-18	First Issue	SRW	TB/JS	RG
P02	31-10-19	Updated to suit revised scheme	SRW	SRW	RG
P03	04-11-19	Updated to suit comments	SRW	SRW	RG

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Project number: 1441195

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1. Introduction

The following statement has been produced to accompany the planning submission information for the new development at Broad Street Mall, Reading. This report replaces the previous statement titled Broad Street Reading Masterplan. Reading. Moorgarth Group Limited. MEP ENGINEERING VENTILATION & EXTRACTION STATEMENT REVISION P01 – 12 DECEMBER 2018.

This statement describes the means by which ventilation requirements have been incorporated into the design of the building for the residential and commercial retail elements of the scheme.

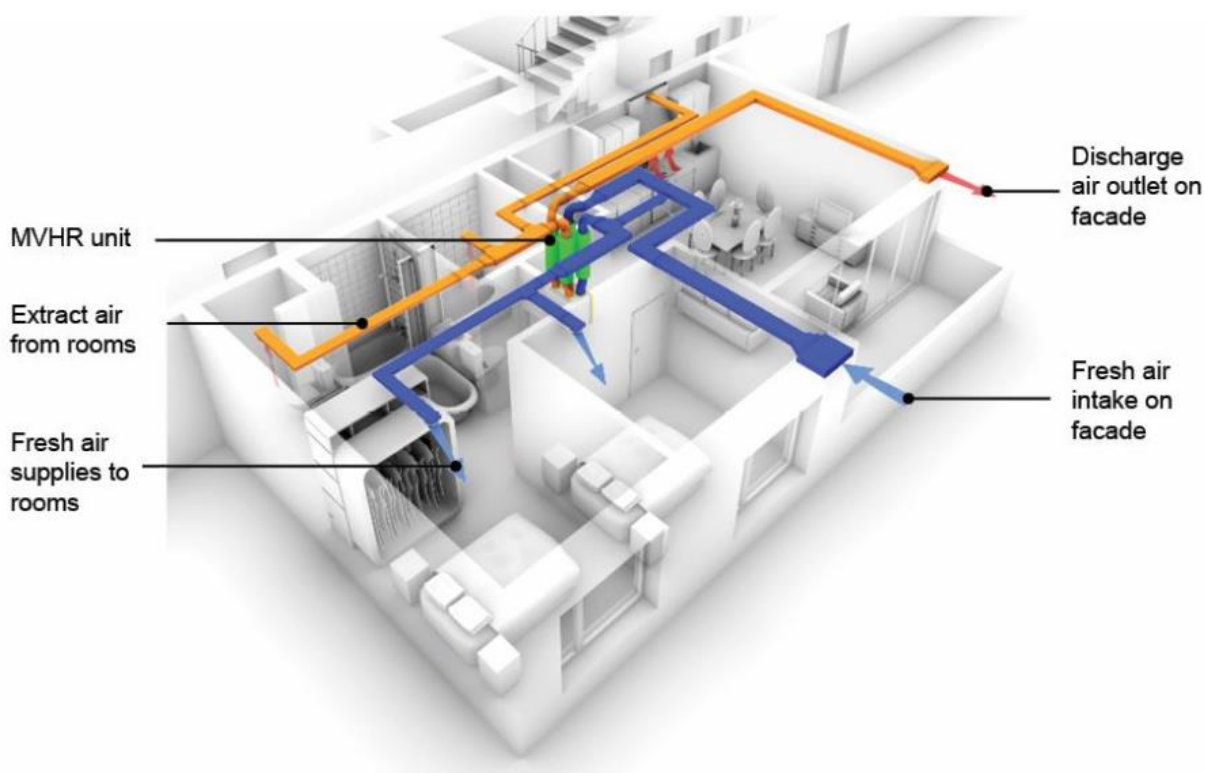
2. Residential Ventilation Strategy

2.1 Description

All dwellings will have ventilation provided by a mechanical ventilation heat recovery (MVHR) unit, generally located within utility cupboards in each dwelling. This approach will allow each dwelling to meet the continuous and boost ventilation requirements of the Building Regulations Approved Document F.

Each dwelling shall have a self-contained MVHR ventilation system:

- Fresh air enters the dwelling through a wall mounted louvre connected by ducting to the MVHR unit.
- Supply air is provided via the MVHR to each habitable room (bedrooms, living room, etc).
- Extract air from the bathrooms, utility cupboards & kitchens is ducted to the MVHR unit.
- Exhaust air leaves the dwelling through a wall mounted louvre connected by ducting to the MVHR unit.



2.2 Indoor Air Quality

Mitigation measures are to be reviewed and incorporated in accordance with the Air Quality modelling requirements, refer to air quality report produced by Hoare Lea submitted with the planning application.

All residential air intakes will maximise separation from any commercial air extracts. See below for further details.

2.3 Purge Ventilation

Approved Document F also states a requirement for purge ventilation, in order to allow the removal of pollutants, such as those from burnt food 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 give the added benefit of allowing the occupants to open a window to enhance room ventilation during suitable external conditions. The use of natural purge ventilation is considered to be independent to the acoustic constraints imposed by external noise.

2.4 Overheating

The Building Regulations Part L (Criterion 3) and SAP Appendix P require each dwelling to demonstrate that it will not 'overheat' during the summer months June to August. This criterion has to be achieved without the use of mechanical cooling, whilst maintaining the acoustic criteria for the habitable rooms. Instead, the design of the façade must be refined to reduce heat gains, with ventilation used to limit internal temperatures.

Due to the ambient external noise levels, Hoare Lea Acoustics have highlighted that in some areas it is likely impracticable to be possible to demonstrate compliance with Criterion 3 by using openable windows to increase the ventilation rate of each dwelling. Opening windows may result in unacceptable internal noise conditions, which, unlike the case for purge ventilation, could continue for extended periods of time and thus become a nuisance.

Acoustic modelling has been undertaken in conjunction with predicted traffic data.

There is a risk that the recommended acoustic levels for the habitable spaces may be exceeded when windows are opened. Therefore the ventilation strategy is to be progressed with no reliance upon openable windows. The mechanical ventilation heat recovery (MVHR) units to be utilised for each dwelling will be sized for ventilation rates to suit building regulations Part F requirements and to deal with overheating. Where ventilation rates to reduce the risk of overheating are too high for a single MVHR unit an additional unit will be provided. Thermal modelling will be undertaken to review the ventilation rates required to achieve comfortable internal conditions without relying on openable windows using predicted climate data.

Openable windows are to be provided for purge ventilation purposes only.

3. Non-Residential Ventilation Strategy

3.1 Ventilation to Bin Stores

Mechanical ventilation systems will provide extract ventilation to enclosed bin stores. The systems will be designed to ensure a negative pressure within the bin store with respect to the adjacent spaces, to control the spread of contaminants and odours. Make-up air will be provided from adjacent spaces via transfer grilles.

3.2 Commercial Areas

The ground level commercial retail units will require supply and extract ventilation for general purposes. Provision will be made for a plantroom within the retail units to house the air handling unit to serve the space (for future fitout by tenant).

An area of louvre intake and exhaust will be allowed for on the retail façade. Odour filtration units will be installed by the tenant for discharging extracts at high level at ground floor level. All odour and noise control from commercial units is to be reviewed in accordance with the Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems by DEFRA.

3.3 Smoke Ventilation

Smoke ventilation will be provided in accordance with the Fire Strategy report produced by Hoare Lea submitted with the planning application.

This will include ventilation to firefighting shafts and common residential corridors via roof mounted mechanical smoke extract fans.



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