

Ventilation Statement

Victoria Point

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1 Introduction

This Ventilation Statement, prepared on behalf of Empiric Student Property (ESP), is to inform the application for full planning consent for the redevelopment of existing student accommodation blocks (six in total) to include the phased demolition and extension of existing buildings to provide a total no.876 student beds at a maximum height of 12 storeys, including associated ancillary internal and external amenity space, ground floor community/commercial space (Use Class E, F1 and F2), hard and soft landscaping and associated highway works. The site is located at Victoria Point, Hathersage Road, Manchester, M13 0FT, near to Victoria Baths and Manchester Royal Infirmary.

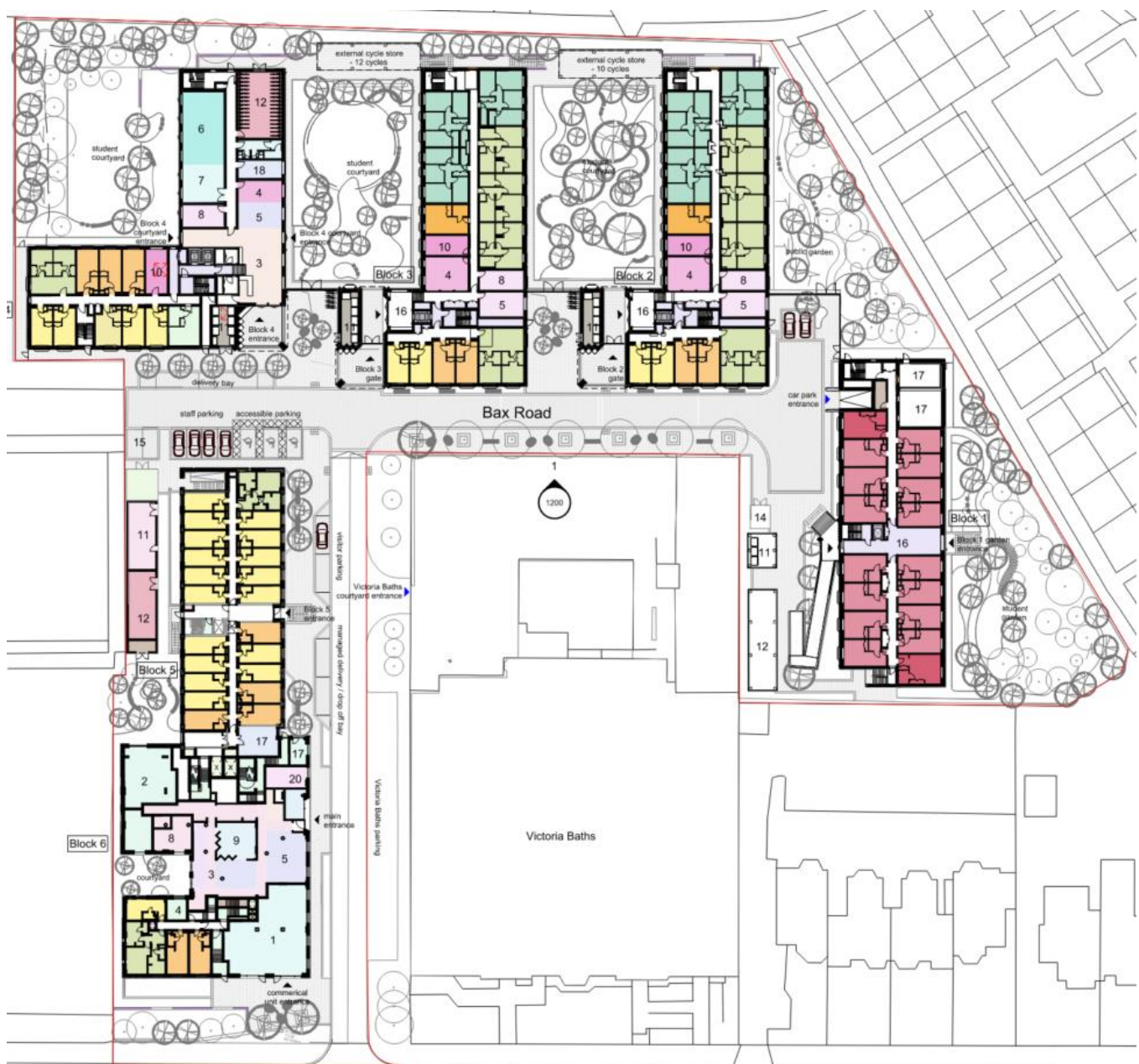


Figure 1.1 Extract of Proposed Site Plan by Bell Philips Architects

2 Ventilation Strategy

2.1 Ventilation Design Criteria

The ventilation rates being designed towards are based on Approved Document F guidance and good engineering practice. These are detailed in the following table.

Table 2.1 Design Ventilation Rates

Design Ventilation Rates	
Studio Bedrooms	13 l/s trickle (21 l/s boost)
Cluster Bedrooms	8 l/s continuous operation
Circulation	Natural Ventilation
Landlord Refuse Areas	10 air changes per hour extract ventilation
Landlord Cleaners Room	10 air changes per hour extract ventilation
Landlord Plant Areas	Natural Ventilation
Amenity Area	10 l/s/person supply and extract with heat recovery

Make-up air into the 'Wet Areas' will be transferred through undercut doors unless the velocity of the required air transfer exceeds 3m/s, or the gap exceeds the requirements of the Building Regulations for spread of fire, in which case low level door transfer grilles with intumescent type dampers within all fire rated doors or walls will be provided.

2.2 All-Electric Servicing Strategy

The proposed servicing strategy for the development, will be all-electric, utilising heat pump technology for domestic hot water generation and direct electric forms of space heating, with no on-site fossil fuel combustion.

The one exception to the above, is the life safety generator, which will be located above ground level and fuelled by diesel, with integral flue discharging directly to atmosphere. However, as the generator is for life safety purposes, it will only operate in emergency conditions or for routine testing.

2.3 Accommodation Areas

It is proposed that each studio apartment will be serviced by a dedicated ceiling mounted MVHR. This will extract air from the bathroom and kitchen area, recovering heat from it to warm the incoming fresh air via plate heat recuperator.

The cluster bedrooms are envisaged to be serviced by a wall mounted MVHR located within a cupboard in the shared kitchen of each cluster. This will provide ventilation to each bedroom, living room, bathroom, and the kitchen within the cluster.

On the atmosphere side of the unit, rectangular section low profile plastic ducting will connect the MVHR unit to the external louvres, located above the windows as detailed within the Architectural Package.

Where required by the fire strategy, including where the ducting routes through the external cavity, fire rated sleeves or plenum will be installed. Where ducts do not discharge via Architectural louvres, these will be via double air bricks.

Ducting on the atmosphere side of MVHRs will be insulated to prevent condensation forming around the ductwork.

On the room side of the unit, rectangular plastic ducting will connect to ceiling mounted supply diffusers in the rooms and ceiling mounted extract air diffusers within bathrooms and kitchen spaces. Makeup air to bathrooms will be provided by way of undercut doors.

The units will be configured in a trickle and boost configuration and will provide continuous background ventilation to meet the latest Approved Document F 2021. Within the studios, the boost will be linked to the cooking facilities and ensuite lighting circuit, so the boost is activated in either situation. Within the cluster bedrooms the ventilation rate will be continuous to meet the latest Approved Document F 2021.

It is proposed that the studio kitchens and cluster shared kitchens will be provided with recirculating cooker hoods to the architect's specification.

2.4 Purge Ventilation

In addition to the mechanical ventilation systems to the accommodation area discussed above, Part F also requires that provision is made for Purge ventilation, which is for the rapid dilution and removal of high concentrations of pollutants from occasional activities. This will be achieved through a mixture of the mechanical purge extract fan or openable windows. In addition to this, the MVHR unit will come complete with a summer boost switch if further enhanced ventilation is required, along with openable windows which can be opened at the occupant's discretion.

2.5 Shared Amenity Space

Shared amenity space such as co-working space, private dining, meeting room, gym, reception lounges, staff room and auditorium will be provided at various blocks at ground floor. The shared amenity spaces will be provided with localised ceiling mounted MVHR units sized to comply with Approved Document F 2021. The inlet and discharge will be via weatherproof architecture linear grilles.

2.6 Refuse Store

Refuse Stores will be mechanically ventilated at a rate of 10 air changes per hour (ACH), via dedicated extract fans discharging exhaust air via louvres above the bin store doors at high-level Ground Floor. Make-up air will be provided via louvred double doors providing access into the Refuse Store.

Where the Refuse Stores are located externally, they will be naturally ventilated through louver door.

2.7 Plantrooms

The life safety generator and air source heat pumps shall be open to atmosphere and therefore naturally ventilated.

The Ground Floor substation will be naturally ventilated in accordance with the District Network Operators specification.

Other internal plantrooms shall be provided with dedicated MVHRs connecting to atmosphere via architectural louvres at high level above external doors.

2.8 Smoke Extract

A mixed of natural and mechanical smoke ventilation systems will be provided to all cores where required in accordance with Approved Document B.

The protected lobbies will be provided with a builderswork smoke extract shaft, with Automatic Opening Vent (AOV) provided at each level and duty/standby smoke extract fans located externally at Roof Level.

Make-up air for the system shall be provided via AOVs at the head of the circulation stairs. Final design of the smoke extract system shall be by a specialist.

Basement smoke ventilation shall be achieved naturally via openable windows/breakable panel in accordance with fire the consultants advise.

2.9 Laundry Facilities

Shared laundry facilities are provided on the Ground Floor of the proposed development. These are anticipated to be operated and managed by a specialist laundry provider.

At this stage of the project, based on experience of other laundry requirements for comparable projects, the following has been allowed for each laundry room:

- **Laundry Exhaust air** – 450x450mm duct (Advised by circuit laundry).
- **Laundry Supply air** – 350x350mm duct (Advised by circuit laundry).

2.10 Acoustic Treatment

Where required to meet the noise criteria outlined within the Acoustic Report, attenuation shall be provided on both the intake and exhaust sides of all supply and extract fans in order to reduce any noise reverberation within the ductwork and to mitigate the extent of any noise breakout to the local environment.

Similarly, where required to meet the noise criteria outlined within the Acoustic Report, attenuation shall also generally be provided on the room side of all supply and extract fans in order to control noise levels of the mechanical ventilation systems within the internal environment.

The generator will be housed within a packaged acoustic enclosure to mitigate break out noise when the generator is operating or being tested.

Similarly, where required acoustic louvres will be provided to the external heat pump compound by the acoustic survey.