



CWC

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consulting

27-33 King Street West, Manchester

Planning Report – Ventilation Strategy

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09/09/2022	2509-CWC-XX-RP-ME-0002	T01	Jordan Price	Jordan Price	Mike Lloyd
			<i>jprice</i>	<i>jprice</i>	<i>mlloyd</i>
13/09/2022	2509-CWC-XX-RP-ME-0002	T02	Jordan Price	Jordan Price	Mike Lloyd
			<i>jprice</i>	<i>jprice</i>	<i>mlloyd</i>

Contents

1.0 Introduction..... 4

2.0 Retail Units..... 5

3.0 Commercial Offices..... 6

4.0 Landlord Common Areas, Sanitary and Plant Facilities..... 7

5.0 Fire Engineering Services..... 8

1.0 Introduction

This statement has been prepared to provide outline details of the ventilation proposals for new 27-33 King Street West in development in Manchester.

The proposed development incorporates the refurbishment of the existing listed Carriage Works building and the building of a new 13-storey building comprising of commercial office space, gym and F&B units at ground level and amenity space at level 13.

The design and installation of ventilation systems will be developed in line with the following:

- Current Building Regulations Approved Documents
- CIBSE Guidebooks
- Health and Safety at Work Act
- Manchester City Council planning conditions and requirements
- All relevant British Standards and Codes of Practices.

2.0 Retail Unit

The F&B Retail Unit will be a shell fit-out at base-build and will incorporate the following M&E services only:

- Looped out LTHW and CHW connections served from Landlords Plant
- Kitchen extract route identified (No pre-installed ductwork)
- Local blanked off louvres provided to the façade or roof of the retail unit
- Capped-off water supply
- Ample drainage pop-ups
- TP&N LV Metered supply
- Fire detection and interface units to landlords system
- Basic lighting

3.0 Commercial Offices

The new building will be provided with a localised supply and extract system shall be provided to serve each office floor plate to provide the occupants with adequate fresh air. The ventilation for the office floor plates shall be a mixed mode ventilation strategy with openable windows.

At certain points throughout the year, there would be opportunity for the MVHR units to be ramped down or switched off with the opening windows providing natural ventilation instead.

Due to the deep floorplates at in the proposed building, this will only cover the perimeter zones with central zones being mechanically ventilated constantly. The opening windows will be actuated and operate automatically based internal and external conditions.

The ventilation system shall be a modular mechanical balanced ventilation system complete with high efficiency heat recovery and shall be designed and installed in compliance with Building Regulations Approved Document F.

The existing building shall also be provided with local MVHR Units ducted to the façade. 2No of the existing windows will be removed on each floor to accommodate this. The existing (non-actuated) openable windows will be retained in the existing Carriage Works building.

All office space will be mechanically heated and cooled by 4-pipe fan coil units with LTHW and CHW sourced from a number of central air source heat pumps at roof level.

The air intakes and exhausts will be located locally on each floorplate and will be coordinated to avoid short-circuiting (minimum 2.5m distance).

4.0 Landlord Common Areas, Sanitary and Plant Facilities

27-33 King Street West will be provided with WC facilities, plantrooms and cycle storage area which will need to be adequately ventilated to prevent any build-up of smells, combustible gasses, mould and mildew.

The sanitary facilities will be provided with extract ventilation at rates which meet the minimum requirements of Part F. Demand control systems will be used on the ventilation systems for the sanitary facilities. Supply ventilation will also be provided to the sanitary facilities at 90% of the volume of extract to serve as make-up. Where feasible, supply make-up ventilation will be replaced by natural means.

Common areas that are expected to serve as main traffic routes for the building or where people are expected to gather, e.g. the reception, are to be provided with balanced supply and extract ventilation of 0.5 litres per second per m² of floor area in accordance with Part ADF2 of the building regulations. Where possible, this mechanical ventilation will be replaced by natural ventilation via openings of area equivalent to minimum 1/50 of the floor area of the common space.

5.0 Fire Engineering Services

It is proposed that the scheme will include the following mechanical ventilation services installations to support the fire engineering strategy for the development:

- Mechanical smoke ventilation to lift lobbies via ducted shaft and AOVs
- Ventilation of fire-fighting stair via AOV at top of staircore