



The Hut Group – Kennedy Street Properties

VENTILATION, EXTRACTION AND ODOUR STATEMENT





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VENTILATION, EXTRACTION AND ODOUR STATEMENT

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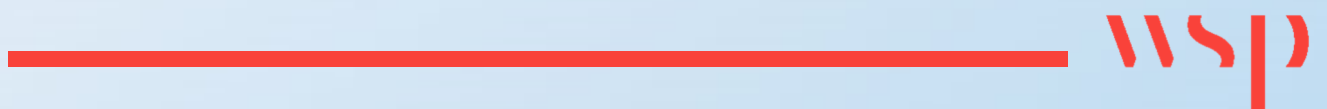
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VENTILATION, EXTRACTION AND ODOUR STATEMENT



VENTILATION, EXTRACTION AND ODOUR STATEMENT

1.1 INTRODUCTION

This statement has been prepared in support of the planning application for the refurbishment of the 16-24 Kennedy Street properties located on Kennedy Street in Manchester.

The proposed refurbishment works include:

- Provision of dedicated kitchen ventilation plant to serve the main kitchen at ground floor and finishing kitchen at first floor
- Provision of new supply and extract ventilation systems to serve the event space at Level 1
- Provision of new dedicated extract ventilation systems to serve the WC and change areas
- Provision of new, dedicated supply and extract ventilation systems to serve the theory studio at Level 1 and the training studio at Level 2
- Provision of a new supply and extract ventilation system to serve the immersive media space at Level 1

This statement has been produced to detail the supply and extract ventilation strategy for the proposed refurbishment.

1.2 DESIGN

The ventilation design shall comply with the following building regulation approved documents and standards:

Design Standards

The ventilation systems will be designed in accordance with recognised UK and industry best practice.

Design will be based on standards and guidelines, including:

- British and European Standards (BSI).
- Chartered Institution of Building Services Engineers (CIBSE).
- Building Services Research and Information Association (BSRIA).
- Building Research Establishment (BRE).
- Heating & Ventilating Contractors Association (HVCA).
- Guidance on the Control of Odour and Noise from Kitchen Exhaust Systems (DEFRA)

Statutory Requirements

Ventilation systems design will also be based on the following Statutory Requirements:

- The Building Regulations.
- Clean Air Act 1993.
- The Control of Pollution Act 1974 and Amendment Acts.
- The Construction (Design and Management) Regulations 2015.
- British Standards and Codes of Practice.
- Manchester City Council Planning Conditions & Requirements.

1.3 VENTILATION RATES

Space Type	Ventilation			Note
	l/s/pp	Ach	l/s/m ²	
Entrance	-	-	-	Space to be naturally ventilated via openable windows – CIBSE AM10
Lounge	-	-	-	Space to be naturally ventilated via openable windows – CIBSE AM10
Media Space	10	-	-	CIBSE Guide A Table 1.5, system based on general occupancy of 6
Guestrooms	-	-	-	Space to be naturally ventilated
WC	-	6	-	CIBSE Guide A Table 1.5
Circulation / B.O.H	-	-	-	Space to be naturally ventilated, air to be drawn from adjacent spaces
Restaurant / Cafe	-	-	-	Space to be naturally ventilated via openable windows – CIBSE AM10
Dining/Kitchen	-	-	-	Space to be naturally ventilated via openable windows – CIBSE AM10
Kitchen	-	-	-	See Kitchen Type/Use for more information
Office Area	-	-	-	Space to be naturally ventilated via openable windows – CIBSE AM10
Training Studio	10	-	-	CIBSE Guide A Table 1.5
Event Space	10	-	-	CIBSE Guide A Table 1.5
General store	-	-	-	Space to be naturally ventilated, air to be drawn from adjacent spaces
Bin store	-	-	-	Space to be naturally ventilated, high and low levels louvres to be installed into doors
Plant	-	-	-	No mechanical ventilation provided in the plant area

1.4 MECHANICAL VENTILATION SYSTEMS

1.4.1 SUPPLY FAN - SF/01 – LOCATED IN THE BASEMENT SERVING EVENT SPACE AREA

The supply fan shall be located at basement level. An Intake louvre shall be provided at the building facade and ductwork shall be routed back to the fan. Supply ductwork shall be routed from the fan to serve the event space as indicated on the drawings. The fan shall be positioned to ensure safe access is achieved on both sides of the fan for maintenance.

Supply diffusers shall be provided at high level around the west perimeter of the room. These diffusers shall be connected to the bulkhead provided in the architectural design.

The unit shall also be complete with electric heater battery to temper the incoming air.

1.4.2 EXTRACT FAN - EF/01 – LOCATED IN THE BASEMENT SERVING 16KSP WC'S AND SHOWERS

The extract fan shall be located at basement level. An Exhaust louvre shall be provided at the building facade and ductwork shall be routed back to the fan. Extract ductwork shall be routed from the fan to serve the event space. The fan shall be positioned to ensure safe access is achieved on both sides of the fan for maintenance.

Extract diffusers shall be provided at high level around the east perimeter of the room. These diffusers shall be connected to the bulkhead provided in the architectural design.

1.4.3 EXTRACT FAN - EF/02 – LOCATED ON THE ROOF SERVING 20 & 24KSP

The extract fan shall be located on the roof of 20KSP. The extract fan shall be positioned to ensure safe access is achieved for maintenance

Extract ductwork shall be provided and routed through the building.

The extract fan unit shall be complete with local manufacturers control module that shall govern the operation of the unit and shall sit on the BMS as an outstation and enable fault reporting, monitoring, operation and set point control via the BMS.

1.4.4 HEAT RECOVERY UNIT - HRU/01 – LOCATED IN THE BASEMENT STUDIO SERVING STUDIO IN 24KSP

The MVHR units shall be located internally, at high level within the corridor area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the studio area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR system will have an electric heater battery connected onto the supply ductwork serving the space, to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

1.4.5 HEAT RECOVERY UNIT - HRU/02 – LOCATED ON LEVEL 1 SERVING IMMERSIVE MEDIA SPACE

The MVHR units shall be located internally, at high level within the immersive media area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the immersive media area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance.

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR system will have an electric heater battery connected onto the supply ductwork serving the space, to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

1.4.6 HEAT RECOVERY UNIT - HRU/03 – LOCATED ON LEVEL 1 SERVING THEORY STUDIO SPACE

The MVHR units shall be located internally, at high level within the theory studio area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the theory studio area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR unit will include an electric heater battery to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

1.4.7 HEAT RECOVERY UNIT - HRU/04 – LOCATED ON LEVEL 2 SERVING TRAINING STUDIO SPACE

The MVHR units shall be located internally, at high level within the training studio area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the training studio area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance.

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR unit will include an electric heater battery to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

1.4.8 HEAT RECOVERY UNIT - HRU/05 – LOCATED ON GROUND FLOOR SERVING KITCHEN

The MVHR units shall be located internally, at high level within the kitchen area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the kitchen area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance.

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR unit will include an electric heater battery to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

The kitchen extract systems shall be designed and installed in accordance with DEFRA Guidance on the Control of Odour and Noise from Kitchen Exhaust Systems. This shall include provisions for access at each level in line with HVCA 171 – Kitchen Ventilation Systems.

The exhaust air from the system shall be exhausted away from residential elements such as openable windows or intake louvres for apartments.

1.4.9 HEAT RECOVERY UNIT - HRU/06 – LOCATED ON LEVEL 1 SERVING KITCHEN

The MVHR units shall be located internally, at high level within the kitchen area suspended from the underside of the ceiling. Supply and extract ductwork shall be routed from the MVHR unit to serve the kitchen area.

The MVHR unit shall be positioned to ensure safe access is achieved to the unit for maintenance.

The MVHR unit shall be complete with heat recovery via a counter flow heat exchanger.

The MVHR unit will include an electric heater battery to temper the air.

Outdoor air intake and exhaust louvres shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

The kitchen extract systems shall be designed and installed in accordance with DEFRA Guidance on the Control of Odour and Noise from Kitchen Exhaust Systems. This shall include provisions for access at each level in line with HVCA 171 – Kitchen Ventilation Systems.

The exhaust air from the system shall be exhausted away from residential elements such as openable windows or intake louvres for apartments.

1.4.10 RE-CIRCULATION UNIT - RCU/01 – RE-CIRCULATION UNIT LOCATED IN THE MECHANICAL PLANTROOM AT BASEMENT LEVEL

The unit shall be complete with integral controls that shall govern the operation of the unit and shall sit on the BMS as an outstation and enable fault reporting, monitoring, operation and set point control via the BMS.

The contractor shall provide access panels within the ductwork system to facilitate inspection, cleaning and access to all items of equipment.

Supply and extract ductwork shall be thermally insulated where it passes through spaces that have design

temperature set points different to that of the air temperature within the duct.

The unit shall be inverter controlled.

The controller shall vary the speed of the ventilation system based on Carbon Dioxide levels in the area, smoke/steam detection in the canopy using optical sensors and heat detection in the extract ductwork using a thermostat.

When CO₂ levels are low and minimal gas is being used the fans speeds shall be reduced and save energy.

The exhausts from the canopies shall be designed to achieve a velocity of 5-7m/s.

The kitchen extract systems shall be designed and installed in accordance with DEFRA Guidance on the Control of Odour and Noise from Kitchen Exhaust Systems. This shall include provisions for access at each level in line with HVCA 171 – Kitchen Ventilation Systems.

1.5 NATURAL VENTILATION SYSTEMS

1.5.1 DINING & KITCHEN

Natural ventilation is proposed to be provided to the dining and kitchen area via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
Dining & Kitchen	4

1.5.2 CAFÉ LOUNGE

Natural ventilation is proposed to be provided to the café lounge area via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
Café Lounge	14

1.5.3 ENTRANCE LOBBIES

Natural ventilation is proposed to be provided to the entrance lobby areas via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
16KSP - Lobby	3
24KSP - Lobby	3

1.5.4 OFFICE/MEETING SPACES

Natural ventilation is proposed to be provided to the office/meeting areas via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
GF Meeting Rm	2
03 Meeting Rm	1
03 Office	4

1.5.5 BEDROOMS

Natural ventilation is proposed to be provided to the bedrooms and super suite via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
20KSP - Guestroom 1	3
20KSP - Guestroom 2	4

20KSP - Guestroom 3	2
20KSP - Guestroom 4	3
20KSP - Guestroom 5	4
20KSP - Guestroom 6	2
24KSP - Bedroom 1	1
24KSP - Bedroom 2	3
24KSP – Master Bedroom	1

1.5.6 24KSP – KITCHEN & LOUNGE

Natural ventilation is proposed to be provided to the 24KSP kitchen and lounge areas via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
01 Kitchen	3
03 Lounge	3

1.5.7 LEVEL 4 TERRACE

Natural ventilation is proposed to be provided to the terrace at level 4, via the proposed opening windows. The existing window actuators and controls shall be stripped out as part of these works. New window actuators capable of incremental control shall be provided as part of the works. New window actuators shall be provided as per the below table:

Room	No of actuator to be provided
Level 4 Terrace	3



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