

Hillingdon Gardens,
London Borough of Hillingdon.

Ventilation Strategy

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1.0 INTRODUCTION

The document describes the proposed ventilation systems for the non-residential and residential elements of the proposed Hillingdon Gardens development in Hillingdon.

The non-residential elements of the scheme are being completed to a Shell & Core specification with the fit – out works, including the ventilation and extract systems, being completed by the incoming Tenants.

A ‘fit-out’ guide will be provided to each of the incoming Tenants which will define the services provided to their respective unit, together with their allocated plant spaces, risers & their obligations with regards energy conservation, noise control & odour control.

2.0 A3 RESTAURANT USE

Flexibility has been provided to allow for A3 restaurant use and this may necessitate the design, operation and maintenance of a commercial kitchen. The extract ventilation systems installed by any tenant shall ensure that no nuisance, disturbance or loss of amenity is caused by odour or fumes to nearby properties or public spaces. Additionally, it shall be incumbent on the restaurant operator to engage a qualified and experienced person to design the ventilation system and to submit details for Landlords and Planning Approval.

As specific end-users have not been identified at this stage and the nature of the cooking processes is unknown, provision in the space planning has been made to allow the following elements of the ventilation system to be considered and incorporated where applicable:

1. Cooker Hood

The cooker hood shall be designed to suit the nature of the cooking process and cover the entire range of equipment. The face velocity shall be suitable to capture the effluent created by the cooking process. The cooker hood extract system shall be designed in accordance with the Heating and Ventilating Contractors’ Association (HVCA) publication DW/172 – Standard for Kitchen Ventilation Systems.

2. Primary Grease Extraction

Primary grease extraction shall be achieved by means of stainless steel baffle filters incorporated within the cooker hood.

3. Secondary Grease Removal & Odour Mitigation

The Tenant will carry out a Department for Environment Food & Rural Affairs (DEFRA) risk assessment (including subsequent revisions) for their kitchen extract system. The assessment will take into consideration the type of food cooked & will determine the type of treatment necessary for secondary grease removal &

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odour mitigation. This would normally include a combination of Electrostatic Precipitators, UV Filtration & Carbon Filtration. A method statement shall be provided by the Tenant to demonstrate ductwork cleaning procedures.

4. Ductwork

Extract ductwork from the cooker hood to the designated roof plant area, via an accessible riser, shall be in accordance with HVCA DW/172 and HVCA specification DW/144, low pressure class A. Access panels shall be provided at suitable intervals to facilitate cleaning.

5. Extract Fan

The extract fan shall be selected to suit the specific application. Consideration shall be given to providing access for cleaning and minimising noise and vibration. Fan speed control shall be provided to ensure that a constant air flow rate is maintained.

6. Attenuation

Attenuation shall be provided at the fan discharge to ensure that the specified external noise criteria is achieved. The attenuator construction shall be suitable for the application and include the facility for internal cleaning access.

7. Exhaust Air Discharge

Provision has been made within the core layout for a dedicated A3 tenant's riser shaft extending to roof level. An area has been assigned at this level for the tenant's extraction plant, which accounts for a vertical exhaust flue. These provisions are indicated on the architect's plans.

The exhaust air discharge shall be positioned so as not to permit entrainment into any fresh air intake.

8. Access to Plant

Suitable access routes shall be provided from the ground floor to the roof plant area to facilitate the maintenance of the specialist ventilation equipment.

3.0 RETAILS UNITS (non A3 usage)

Retails units will be finished as shell and core units for Tenant fit-out. As the type of tenant is not known at this stage an allowance will be made for ventilation grilles in the building façades for use by the incoming Tenants for general extract & fresh air intake connections to their ventilation systems.

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4.0 COMMERCIAL & AFFORDABLE WORKSPACES

Commercial & Affordable workspace units will be finished as shell and core units for Tenant fit-out. As the type of fit-out is not known at this stage an allowance will be made for ventilation grilles in the building façades for use by the incoming Tenants for general extract & fresh air intake connections to their ventilation systems.

5.0 RESIDENTIAL UNITS

Where technically feasible apartments will be naturally ventilated with extract to each kitchen, utility room, bathroom and sanitary accommodation in accordance with the requirements of Building Regulation AD F.

Where necessary apartments shall be mechanically ventilated with a heat recovery system to satisfy the requirements of Building Regulation AD F, the recommendations of the acoustic report, the recommendations of the air quality report and the recommendations of the over-heating analysis. Extract ventilation to outside will be provided to each kitchen, utility room, bathroom and sanitary accommodation. The extract will be continuously operating via the MVHR Unit.

The rate for continuous systems at the highest and lowest setting will be no less than specified in Table 5.1a from AD F. Please see table below.

Purge ventilation provision will be provided via openable windows or strategically positioned louvres in the building elevations.

Supply air where required will be delivered from the MVHR and filtered as appropriate in accordance with the air quality report.

Apartments which require mechanical ventilation shall have Supply and Extract ducts routed from the MVHR through the ceiling void and connect to louvres positioned in the external façade.



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Table 5.1a Extract ventilation rates

Room	Intermittent extract	Continuous extract	
	Minimum rate	Minimum high rate	Minimum low rate
Kitchen	30 l/s adjacent to hob; or 60 l/s elsewhere	13 l/s	Total extract rate should be at least the <i>whole dwelling ventilation</i> rate given in Table 5.1b
Utility room	30 l/s	8 l/s	
Bathroom	15 l/s	8 l/s	
Sanitary accommodation	6 l/s	6 l/s	

Table 5.1b Whole dwelling ventilation rates

	Number of bedrooms in dwelling				
	1	2	3	4	5
Whole dwelling ventilation rate ^{a, b} (l/s)	13	17	21	25	29

Notes:

- In addition, the minimum ventilation rate should be not less than 0.3 l/s per m² of internal floor area. (This includes all floors, e.g. for a two-storey building add the ground and first floor areas.)
- This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. This should be used as the default value. If a greater level of occupancy is expected add 4 l/s per occupant.