

Mechanical Ventilation, Overheating & Odour

Planning Support Note

Proposed residential conversion at second-floor level - four flats above retained commercial premises

Site Address	73, 74 & 74A Broad Street, Reading, RG1 2AP
Local Planning Authority	Reading Borough Council
Approved Scheme Reference	PL/25/1105
Client	PR Architecture Ltd, 120 Pinner Road, Harrow, HA1 4JD
Prepared for	PR Architecture
Document Reference	883H-SDC-XX-XX-RP-ME-001
Revision / Status	P02 - Planning Issue
Date	September 2026
Prepared by	Survey Design Consult (SDC)

Document Control

Revision History

Rev.	Date	Description	Prepared	Checked	Approved
P01	June 2026	Planning issue	PS	CM	LR
P02	September 2026	Planning issue - active comfort cooling via Nuaire MRXBOX Hybrid Cooling MVHR added	PS	CM	LR

This document has been prepared by Survey Design Consult (SDC) for the sole use of PR Architecture Ltd in connection with the planning submission for the site identified above. It should be read alongside the architectural drawings prepared by PR Architecture Ltd, in particular drawing PL-27 (Proposed Second and Roof Plan) and the approved drawings PL-30, PL-32 and PL-33 (planning reference PL/25/1105). No liability is accepted for any use of this document for purposes other than that for which it was prepared.

1. Introduction

1.1 Purpose of this Statement

Survey Design Consult (SDC) has been appointed by PR Architecture Ltd to provide mechanical (MEP) consulting engineering input in support of the revised planning submission for 73, 74 & 74A Broad Street, Reading, RG1 2AP. This Planning Support Note sets out the proposed mechanical ventilation strategy for the new dwellings, the strategy for mitigating the risk of summertime overheating, and the strategy for protecting the future residents from odour transfer arising from the commercial premises retained at ground and first floor level.

The note has been prepared specifically to respond to the matters raised by Reading Borough Council in relation to mechanical ventilation, daytime overheating and potential odour impact on the proposed dwellings. It demonstrates, at a level appropriate to planning, that the development can be delivered in compliance with the relevant Parts of the Building Regulations 2010 (as amended) and supporting industry guidance, and it provides response wording suitable for inclusion within the architect's planning response or Design and Access Statement.

It is intended to be read alongside the architectural drawings prepared by PR Architecture Ltd and to inform, but not replace, the detailed mechanical design that will be developed in support of the Building Regulations application following the grant of planning permission.

1.2 Site Location and Context

The property occupies a prominent town-centre position on Broad Street, Reading's principal pedestrianised retail thoroughfare, on the corner with West Street. The building is of three principal storeys with a flat-roofed second-floor element and a parapet. The ground and first floors accommodate commercial (retail) floorspace, with associated back-of-house areas, and these uses are to be retained. The upper level of the building is the subject of the residential proposals described below.

The town-centre location is material to the building services strategy. The site is exposed to street-level activity, traffic and commercial servicing, and the proposed dwellings sit directly above active commercial premises. These characteristics inform the recommendation to provide a controlled, predominantly mechanical ventilation solution that does not rely solely on occupants opening windows onto a busy street frontage, and they place particular emphasis on the separation of residential air intakes from commercial extract discharges.

1.3 Development Description

The proposals comprise the conversion of the second-floor level to form four self-contained residential flats above the retained commercial premises at ground and first floor level. The accommodation is summarised in Section 3 and is derived from drawing PL-27 (Proposed Second and Roof Plan). Each flat is provided with a kitchen, a bathroom, a living/dining space, bedroom accommodation and circulation, with Flat 1 additionally provided with a utility space. A number of the flats are served, in part, by rooflights to the flat roof and by enlarged windows, as annotated on the architect's drawing. Vertical access to the residential level is via the existing stair and lift core.

1.4 Scope and Limitations

This appointment is limited to the production of a written mechanical ventilation, overheating and odour planning support note. For the avoidance of doubt, and consistent with SDC's fee proposal, the following are expressly excluded from this note and would, if required, be the subject of a separate instruction:

- Detailed mechanical design drawings, ventilation layouts, marked-up plans and schematics;
- Electrical design and any full M&E design package;
- Thermal modelling, including CIBSE TM59 dynamic simulation and SAP-based overheating calculations;
- Odour dispersion modelling;
- Acoustic assessment or noise impact assessment;
- Intrusive survey or opening-up works; and
- Liaison with the local authority beyond the issue of this written note.

Where this note recommends that a matter be confirmed by dynamic modelling, measurement or detailed design, that work falls outside the present scope. The commentary provided is appropriate to the planning stage and is intended to demonstrate that a compliant solution is achievable and to define the route by which compliance will subsequently be evidenced.

1.5 Information Relied Upon and Assumptions

This note is based on the information issued by PR Architecture Ltd, principally the proposed and approved planning drawings. In the absence of confirmed information, the following reasonable assumptions have been made; they should be reviewed by the design team and corrected where necessary, as they may affect the detailed design:

- **Commercial use:** the ground and first floor commercial units are assumed potentially to include food and/or beverage uses, given that kitchens are shown on the approved plans. The odour strategy in Section 6 is therefore developed on a precautionary basis. The specific use class(es) and the presence, type and rating of any existing or proposed commercial cooking and kitchen extract require confirmation.
- **Unit mix:** the flats are assumed to be one-bedroom units as labelled, with Flat 4 (the largest, at approximately 73 m²). Bedroom numbers should be confirmed, as the whole-dwelling ventilation rate depends upon them.
- **Openable windows:** it is assumed that openable windows and openable rooflights can be provided to habitable rooms unless restricted by planning, noise, security or fire-strategy requirements. Any such restriction should be confirmed, as it directly affects the overheating and purge ventilation strategy.
- **Floor areas and aspect:** indicative gross internal areas and the aspect/daylighting of each unit are taken from PL-27 and should be verified against the architect's measured drawings.

2. Regulatory Framework and Design Standards

2.1 Statutory Framework

The proposals have been considered having regard to the following statutory framework:

- The Building Act 1984;
- The Building Regulations 2010 (as amended);
- Approved Document F: Ventilation, Volume 1 - Dwellings (2021 edition, in force 15 June 2022);
- Approved Document O: Overheating (2021 edition, in force 15 June 2022);
- Approved Document L: Conservation of Fuel and Power, Volume 1 - Dwellings (2021 edition incorporating 2023 amendments);
- Approved Document B: Fire Safety, Volume 1 - Dwellings (as amended);
- Approved Document E: Resistance to the Passage of Sound;
- The Town and Country Planning Act 1990 (as amended), the National Planning Policy Framework and the relevant policies of the adopted Reading Borough Local Plan concerning residential amenity, pollution and the protection of health and living conditions; and
- The Environmental Protection Act 1990, in respect of statutory nuisance (including odour).

Note on planning policy: the interpretation of, and compliance with, specific development-plan policies is led by the architect and the project's planning adviser. This note addresses the technical building-services matters that underpin those policies.

2.2 Relevant Approved Documents

Document	Title	Relevance to this note
Part F	Ventilation (Vol 1)	Whole-dwelling, extract and purge ventilation rates and system requirements for each new flat (Tables 1.1-1.3).
Part O	Overheating	Limitation of solar gains and removal of excess heat in new residential accommodation; defines the simplified and dynamic (TM59) compliance routes.
Part L (Vol 1)	Conservation of fuel and power	Limiting (backstop) U-values for the thermal envelope of the converted dwellings; relevant to the fabric assumptions underpinning the overheating appraisal.
Part B	Fire safety	Fire-stopping and compartmentation at the commercial/residential interface, which also serves to limit odour migration.
Part E	Resistance to the passage of sound	Separating floor between commercial and residential uses; airtight detailing that supports odour control.

2.3 Industry Standards and Guidance

The detailed design will be developed in accordance with the following codes, standards and guidance:

- CIBSE Guide A - Environmental Design;
- CIBSE Guide B2 - Ventilation and Ductwork;
- CIBSE TM59 - Design Methodology for the Assessment of Overheating Risk in Homes (the basis of the Part O dynamic modelling route);
- CIBSE TM52 - The Limits of Thermal Comfort: Avoiding Overheating in European Buildings;
- BS EN 16798-1 and CIBSE Guide A - indoor air quality and design criteria;
- BESA DW/172 - Specification for Kitchen Ventilation Systems;
- EMAQ+ / Defra - Control of Odour and Noise from Commercial Kitchen Exhaust Systems (guidance on odour risk assessment, abatement and discharge); and
- Domestic Ventilation Compliance Guide (2010, as amended) and the Approved Document F commissioning requirements.

3. Schedule of Accommodation

The accommodation below is derived from drawing PL-27 and is indicative pending confirmation against the architect's measured drawings. Aspect and daylighting are interpreted from the plan and roof plan annotations (including "roof light above" and "enlarged window" notes).

Unit	Indicative GIA (m ²)	Wet rooms	Aspect / daylighting
Flat 1	54.0	Kitchen, bathroom, utility	External windows (multi-aspect, south-west)
Flat 2	50.0	Kitchen, bathroom	External windows (south)
Flat 3	50.5	Kitchen, bathroom	Partly internal; served in part by rooflight(s)
Flat 4	72.98	Kitchen, bathroom	Partly internal; served in part by rooflight(s); enlarged window

Total: four flats, approximately 227.5 m² GIA. The presence of single-aspect units and rooms lit principally by rooflights is significant for the overheating strategy (Section 5) and is the principal driver for the recommended mechanical ventilation approach (Section 4).

4. Mechanical Ventilation Strategy

4.1 Design Principles

Each flat will be provided with a ventilation system that satisfies the three functions required by Approved Document F, Volume 1:

- **Extract ventilation** from rooms where most water vapour and pollutants are released (kitchens, bathrooms and any utility/sanitary accommodation), to limit their spread to the rest of the dwelling;
- **Whole-dwelling ventilation** to supply fresh air to habitable rooms and to dilute and remove residual moisture and pollutants; and
- **Purge ventilation** to allow rapid dilution and removal of high concentrations of pollutants and water vapour on an intermittent basis (also relevant to summertime heat removal under Part O).

4.2 Recommended System Selection

Approved Document F permits intermittent extract with background ventilators (System 1), continuous mechanical extract ventilation (System 3, MEV or decentralised dMEV) and continuous mechanical supply and extract with heat recovery (System 4, MVHR). For this development SDC recommends a continuous mechanical ventilation approach in preference to reliance on intermittent extract with trickle ventilators, for the following reasons:

- The town-centre frontage exposes habitable rooms to external noise and to street-level air quality; a controlled mechanical supply allows fresh air to be drawn from a considered, filtered, high-level intake rather than relying on occupants opening windows to the street;
- Several units are single-aspect or are lit in part by rooflights, which limits the effectiveness of passive background and cross-ventilation; and
- A controlled supply, slightly pressurising the dwellings, assists in resisting the ingress of odours from the commercial units below (see Section 6).

Balanced mechanical ventilation with heat recovery (MVHR, System 4) is therefore the preferred solution, as it provides a filtered, tempered fresh-air supply to habitable rooms with extract from wet rooms through a single, coordinated system. The MVHR unit proposed for each flat is the Nuaire MRXBOX Hybrid Cooling System, which combines a System 4 MVHR unit with a matched, integral cooling module providing active comfort cooling of the fresh-air supply in summer (see Section 5.6). Continuous mechanical extract ventilation (dMEV/MEV, System 3) with background ventilators is an acceptable alternative where MVHR cannot be accommodated. Final system selection, equipment sizing, duct routing and commissioning will be confirmed at detailed design / Building Regulations stage.

4.3 Extract Ventilation

Extract will be provided to each kitchen, bathroom and utility space at no less than the rates in Approved Document F. Where a wet room has no openable window, mechanical extract will be provided with an overrun, and kitchen extract will be ducted to external air via a route that does not compromise the odour strategy. Indicative minimum rates are:

Room	Intermittent extract (Table 1.1)	Continuous high rate (Table 1.2)
Kitchen	30 l/s (cooker hood, ducted externally) or 60 l/s (otherwise)	13 l/s
Utility room (Flat 1)	30 l/s	8 l/s
Bathroom / shower room	15 l/s	8 l/s
Sanitary accommodation (if separate WC)	6 l/s	6 l/s

4.4 Whole-Dwelling Ventilation

The whole-dwelling supply rate for each flat is the greater of 0.3 l/s per m² of internal floor area and the rate determined by the number of bedrooms (Approved Document F, Table 1.3). On the assumptions in Section 1.5 the governing rates are:

Flat	GIA (m ²)	Beds	0.3 l/s·m ²	Table 1.3	Governing
Flat 1	54.0	1	16.2 l/s	19 l/s	19 l/s
Flat 2	50.0	1	15.0 l/s	19 l/s	19 l/s
Flat 3	50.5	1	15.2 l/s	19 l/s	19 l/s
Flat 4	72.98	2	21.9 l/s	19 l/s	≈22 l/s (25 l/s if 2-bed)

Where continuous mechanical extract is adopted, the total continuous extract across each dwelling will be at least the governing whole-dwelling rate above, and background ventilators will be provided to habitable rooms (broadly, one per habitable room plus a margin) in accordance with Section 2 of Approved Document F. Where MVHR is adopted, balanced supply and extract will meet the same whole-dwelling rates.

4.5 Purge Ventilation

Purge ventilation will be provided to each habitable room, capable of achieving the equivalent of at least four air changes per hour, normally by openable windows or openable rooflights with an opening angle of at least 15 degrees, or by an equivalent mechanical provision where openings are constrained. Purge provision also contributes directly to the removal of excess heat addressed in Section 5; the two requirements will be coordinated so that the same openings serve both purposes wherever practicable.

4.6 Air Intake and Discharge Strategy

The location of fresh-air intakes and of all extract discharges will be coordinated as part of the ventilation design and is central to the odour strategy. In principle, residential MVHR/supply intakes will be positioned at high level, on the cleanest available elevation, and will be separated horizontally and vertically from all extract terminations (residential wet-room extract, and in particular any commercial kitchen extract). Extract discharges will be located and oriented so that they cannot re-enter intakes or habitable-room windows. This is developed further in Section 6.

4.7 Commissioning

All mechanical ventilation systems will be installed and commissioned in accordance with the requirements of Approved Document F, with measured air-flow rates recorded and a commissioning certificate provided to the Building Control Body on completion.

5. Overheating

5.1 Regulatory Context

Approved Document O applies to the new residential units created by the conversion. Compliance may be demonstrated either by the simplified method (Section 1 of Part O), which limits glazing areas and prescribes a minimum free opening area for the removal of heat, or by the dynamic thermal modelling method (Section 2), which follows the CIBSE TM59 methodology. Part O seeks to protect the health and welfare of occupants by limiting solar gains entering the building and by providing an adequate means of removing heat; mechanical cooling is discouraged in favour of passive measures.

For the simplified method, England is divided into 'moderate risk' and 'high risk' locations. High-risk locations are limited to parts of London and central Manchester; **Reading is a moderate-risk location**. Cross-ventilation is defined strictly as the provision of openings on opposite façades - openings on adjacent (corner) façades do not qualify.

5.2 Overheating Risk Appraisal for this Development

The proposed flats present a number of features that elevate the inherent risk of summertime overheating and which must be addressed by design:

- They occupy the top occupied storey of the building, beneath a flat roof, increasing exposure to solar gain through the roof and rooflights;
- Several units are single-aspect, or have openings only on adjacent (corner) façades, and therefore cannot achieve cross-ventilation as defined by Part O;
- Certain rooms are lit principally by rooflights, which are not well represented by the simplified method and tend to admit significant solar gain;
- Enlarged and potentially west- or south-facing windows are indicated, which carry the tightest glazing limits under the simplified method; and
- The town-centre frontage may constrain the extent to which windows can be opened for night-time cooling because of external noise and security.

Because of the combination of single-aspect units, rooflit rooms and a constrained street frontage, the simplified method is unlikely to be a reliable route to compliance for all units. SDC's view is that **the dynamic thermal modelling route (CIBSE TM59), as provided for in Section 2 of Approved Document O, is likely to be the appropriate method to demonstrate compliance** at Building Regulations stage. That assessment is excluded from the present scope and would be undertaken as a separate instruction. This note establishes the passive design strategy that the subsequent assessment will test and refine.

5.3 Mitigation - Limiting Unwanted Solar Gains

The first objective is to limit the solar energy entering each dwelling. The following measures are recommended for development through the detailed design:

- Control of glazing area in relation to floor area, particularly for east-, south- and west-facing rooms and for rooflights;
- Specification of solar-control glazing with a low total solar energy transmittance (g-value) to habitable rooms exposed to significant solar gain (an indicative target g-value of the order of 0.4 or lower, to be confirmed by the overheating assessment);
- Use of external or mid-pane shading and recessed reveals to limit direct gains while retaining daylight and outlook;
- Appropriately insulated roof construction to limit conducted gain through the flat roof (see Section 5.5).

5.4 Mitigation - Removing Excess Heat

The second objective is to provide an adequate means of removing heat. The following measures are recommended:

- Provision of generous openable areas to habitable rooms, coordinated with the purge ventilation requirement of Section 4.5;
- Where cross-ventilation cannot be achieved, use of openable rooflights in combination with low-level openable windows to promote buoyancy-driven (stack) ventilation, enhancing single-sided ventilation;
- Provision of secure, lockable night-ventilation (for example restricted or secure ventilation openings, or openable rooflights at a high level) so that occupants can purge heat overnight without compromising security on the street frontage;
- Consideration of acoustically attenuated ventilation openings where external noise would otherwise discourage window opening; and
- Retention of the mechanical ventilation system (Section 4) as a continuous baseline air supply; and
- Provision of active comfort cooling of the mechanical fresh-air supply to each flat by means of the Nuaire MRXBOX Hybrid Cooling System, as described in Section 5.6, applied in support of, and not in place of, the passive measures above, consistent with the cooling hierarchy of Approved Document O.

5.5 Thermal Envelope Assumptions

The fabric of the converted dwellings is the architect's responsibility. For the purpose of this note, and as instructed, the thermal envelope has been assumed to achieve the limiting ("backstop") U-values of Approved Document L, Volume 1, Table 4.2 for new thermal

elements created in an existing dwelling by a material change of use. These values represent the worst acceptable standard; the detailed design and the energy assessment may require better performance.

Element	Limiting (backstop) U-value, W/m ² K
External wall (new thermal element)	0.18
Roof, including flat roof (new thermal element)	0.15
Floor (new thermal element)	0.18
Windows and roof windows (vertical plane)	1.4
Rooflights (horizontal plane)	2.2
External doors	1.4

Where existing elements are retained and renovated rather than newly formed, the limiting standards of Approved Document L, Table 4.3 apply instead (broadly 0.70 W/m²K for walls and floors and 0.35 W/m²K for roofs), with elements upgraded where practicable. It is noted that the better-insulated, more airtight fabric implied by these standards, while beneficial in winter, increases the importance of the active overheating measures above; this is precisely the interaction that the Part O assessment is intended to capture.

5.6 Active Comfort Cooling - Nuaire MRXBOX Hybrid Cooling System

In addition to the passive measures set out in Sections 5.3 and 5.4, active comfort cooling is proposed for each flat by means of the Nuaire MRXBOX Hybrid Cooling System. This comprises the balanced MVHR unit recommended in Section 4.2 together with a matched, factory-engineered cooling module mounted directly on the MVHR unit. The cooling module incorporates a sealed-for-life R134a refrigeration circuit and cools the incoming filtered fresh-air supply, so that in hot weather each dwelling receives a continuous supply of cooled, filtered fresh air through the same ductwork and room terminals that provide the whole-dwelling ventilation. It is emphasised that this is not a conventional room-by-room air-conditioning installation: no indoor wall-mounted fan-coil units, refrigerant pipework within habitable rooms, or additional external condenser units serving individual rooms are required.

Manufacturer's data indicates a combined coolth-recovery and sensible-cooling output in excess of 2 kW per unit, with supply-air temperatures of the order of 15-20 °C achievable at external ambient temperatures of 29-34 °C across the airflow range relevant to these dwellings. Cooling operation is enabled by an adjustable wall-mounted cooling-stat within each flat, with control interlocks that raise the ventilation airflow when cooling is enabled and inhibit the cooling module in the event of fan failure. The unit retains a heat exchanger of up to 95% efficiency for winter heat recovery, together with a summer bypass, and the system is SAP-recognised and compliant with Approved Documents F and L.

This active cooling provision directly addresses the residual overheating risk identified in Section 5.2, in particular the single-aspect and rooflit units and the noise and security constraints on night-time window opening to the Broad Street frontage. Consistent with the cooling hierarchy of Approved Document O, the passive measures of Sections 5.3 and 5.4 will be maximised first, with the MRXBOX cooling contribution, sizing and control strategy

confirmed and quantified within the CIBSE TM59 dynamic overheating assessment at the detailed design / Building Regulations stage.

6. Odour Impact from the Commercial Units

6.1 Source Identification

The proposed dwellings sit directly above commercial premises that are to be retained at ground and first floor level. The approved drawings indicate kitchen areas within the building, and the council's concern relates to the potential transfer of odour from the commercial use to the residential accommodation. On a precautionary basis, this note assumes that the commercial units may include food and/or beverage uses capable of generating cooking odours. The actual use class(es), and the presence, type and rating of any commercial cooking and kitchen extract, require confirmation; the strategy below scales to the use that is ultimately confirmed.

6.2 Transfer Mechanisms

Odour can reach the dwellings by three principal routes, each of which is addressed in the mitigation strategy:

- **Re-entry of extract discharge:** odour-laden air discharged from a commercial kitchen extract re-entering residential air intakes or openable windows;
- **Migration through the fabric:** transfer through service penetrations, risers, ceiling voids and the shared stair/lift core between the commercial and residential zones; and
- **Infiltration at the interface:** leakage across the separating floor construction between the first-floor commercial use and the second-floor dwellings.

6.3 Mitigation Strategy

The following measures, developed in line with the EMAQ+ guidance on the control of odour from commercial kitchen exhaust systems and BESA DW/172, will protect the amenity of the future residents:

- **Horizontal separation of intakes:** residential fresh-air intakes will be positioned remote from, and ideally upwind of, the commercial discharge, observing the separation distances recommended by the odour guidance;
- **Sealing and compartmentation:** all service penetrations between the commercial and residential zones will be fully sealed, and fire-stopping at the separating floor (required in any event under Part B) will be detailed to act also as an effective air and odour barrier; risers and shared voids will be sealed at the interface;
- **Airtight separating construction:** the separating floor between the first-floor commercial use and the second-floor dwellings will be detailed to be airtight, complementing its acoustic (Part E) function; and

- **Positive-pressure residential ventilation:** the recommended balanced MVHR system (Section 4.2) maintains a slight positive pressure within the dwellings, which resists the ingress of odours from below and from the common parts.

6.4 Securing the Strategy

Responsibility for the commercial kitchen extract and its abatement rests with the commercial tenant/landlord rather than with the residential developer; its route and termination must nonetheless be coordinated with the residential ventilation design. Where a food use is present, SDC recommends that the local planning authority secure an odour-control scheme by condition requiring submission and approval of details of the kitchen extract system, its abatement and its discharge arrangements so that residential amenity is protected for the lifetime of the development. This approach is consistent with the 'agent of change' principle in national planning policy, under which the impacts of an existing use on incoming sensitive development are appropriately mitigated.

7. Summary Against the Council's Concerns

The table below summarises how each of the three matters raised by Reading Borough Council is addressed.

Council concern	Response summary	Primary standard
Mechanical ventilation	Each flat provided with a Part F-compliant system; continuous mechanical ventilation recommended (MVHR preferred), with wet-room extract and whole-dwelling supply at the rates set out in Section 4 and purge ventilation to all habitable rooms.	Approved Document F, Vol 1
Daytime overheating	Passive-first strategy: limit solar gains (glazing area, solar-control glazing, shading) and provide an adequate means of removing heat (openable area, openable rooflights, secure night ventilation), supplemented by active comfort cooling of the MVHR fresh-air supply to each flat via the Nuaire MRXBOX Hybrid Cooling System (Section 5.6). Compliance to be evidenced by CIBSE TM59 dynamic modelling at	Approved Document O

Council concern	Response summary	Primary standard
	Building Regulations stage, given single-aspect and rooflit units.	
Odour from commercial units	Separation of residential intakes from commercial discharges, sealing of penetrations and an airtight separating floor, and positive-pressure residential ventilation	EMAQ+ / BESA DW/172; ADF; ADB/ADE

On this basis it is SDC's opinion that the development can be delivered in compliance with the relevant Parts of the Building Regulations and can adequately protect the amenity and welfare of the future residents in respect of ventilation, overheating and odour. The matters identified for confirmation in Section 1.5, and the dynamic overheating assessment identified in Section 5.2, do not prevent the grant of planning permission and are appropriately resolved at the detailed design / Building Regulations stage, with an odour-control scheme secured by condition.

8. Suggested Planning Response Wording

The following wording is provided for the architect to adapt and incorporate within the planning response or Design and Access Statement. It may be edited to suit the council's specific comments.

Ventilation

"Each of the four proposed flats will be served by a mechanical ventilation system designed to comply with Approved Document F (Ventilation). Continuous mechanical ventilation - with heat recovery as the preferred option - will provide a controlled, filtered supply of fresh air to habitable rooms drawn from a high-level intake, together with extract from kitchens and bathrooms at the rates required by Part F. This approach provides good indoor air quality without relying on occupants opening windows onto the Broad Street frontage. Purge ventilation will be provided to all habitable rooms. Air intakes and extract discharges will be positioned and separated so that discharged air cannot re-enter the dwellings."

Overheating

"The risk of summertime overheating has been considered in accordance with Approved Document O. Reading is a moderate-risk location. The design will limit unwanted solar gains through control of glazing areas, solar-control glazing and shading (including to rooflights), and will provide an adequate means of removing heat through openable windows and rooflights, including secure provision for night-time cooling. Because a number of the units are single-aspect or are lit by rooflights, compliance with Part O will be demonstrated at the detailed design stage using the dynamic thermal modelling (CIBSE TM59) route. In addition to these passive measures, each flat will be served by a Nuaire MRXBOX Hybrid Cooling System, a mechanical ventilation with heat recovery (MVHR) unit with an integrated cooling module, which cools the filtered fresh-air supply during hot weather and maintains comfortable internal temperatures without reliance on opening windows onto the Broad Street frontage. This active cooling supplements, and does not replace, the passive measures, consistent with the cooling hierarchy of Part O, and its contribution will be quantified within the TM59 assessment."

Odour

“The potential for odour transfer from the retained commercial premises to the proposed dwellings has been assessed. The proposals will separate residential air intakes from any commercial extract; fully seal all service penetrations and provide an airtight, fire-stopped separating floor between the commercial and residential uses; and maintain a slight positive pressure within the dwellings through balanced mechanical ventilation. With these measures the future residents will be adequately protected from odour, consistent with the agent-of-change principle.”

9. Conclusion

This Planning Support Note responds to the matters raised by Reading Borough Council in relation to mechanical ventilation, daytime overheating and odour impact arising from the proposed conversion of the second-floor level of 73, 74 & 74A Broad Street to form four flats above retained commercial premises.

Ventilation to each dwelling will follow Approved Document F, with continuous mechanical ventilation recommended (MVHR preferred) to suit the town-centre setting and the single-aspect and rooflit nature of several units. Overheating will be addressed through a passive-first strategy of limiting solar gains and providing an adequate means of removing heat in accordance with Approved Document O, supplemented by active comfort cooling of the fresh-air supply to each flat via Nuaire MRXBOX Hybrid Cooling MVHR units, with quantified compliance to be demonstrated by CIBSE TM59 dynamic modelling at the next design stage. Odour transfer from the commercial premises will be controlled through the separation of intakes and discharges, high-level discharge and abatement of any commercial kitchen extract, the sealing of service penetrations, an airtight separating floor and positive-pressure residential ventilation, with an odour-control scheme recommended to be secured by condition.

Subject to the confirmations set out in Section 1.5 and to the detailed design and assessments identified above, SDC is satisfied that the development can be delivered in compliance with the relevant Parts of the Building Regulations and can adequately protect the amenity of the future residents. SDC supports the planning submission on this basis and will progress the detailed mechanical design and the supporting assessments following the grant of planning permission, as separately instructed.

*Prepared by Survey Design Consult - Mechanical & Electrical Consulting Engineers
Document reference 883H-SDC-XX-XX-RP-ME-001 | Revision P02 | September 2026*