

**Rolfe Judd Planning**

Old Church Court  
Claylands Road  
London  
SW8 1NZ

**For the attention: Ms A. Collins**

**Our Ref: 8986/P-7**

28<sup>th</sup> January 2025

Dear Ailish,

**Re. 15 SHORTS GARDEN & 2-3 NEALS YARD  
CAMDEN COOLING HIERARCHY COVERING LETTER**

As part of the planning application for the refurbishment works of the ground floor and basement restaurant unit at 15 Shorts Garden & 2-3 Neals Yard, BSEC Design have undertaken an assessment of the internal heat losses and heat gains associated with the potential usage of the space.

As part of this planning application the two buildings are being amalgamated to form a single larger restaurant unit. The units are to be offered to the tenant as a shall for a full tenant fit-out. Currently there is no air conditioning to either of the existing units.

The assessment of heat losses is a relatively simple steady state calculation based on fabric data and the external design criteria during summer. Based on this calculated load various heat generating sources were reviewed and air source (air-to-air) heat pumps were considered the most optimal solution in terms of their efficiency, lack of contribution to local air pollution (no use of fossil fuels), and their minimal external plant space requirements. A Variable Refrigerant Flow (VRF) type air source heat pump unit is proposed for heating and cooling. This type of unit has been selected as the most appropriate and sustainable means of heating/cooling for the proposed space.

With regards to heat gains and the provision of comfort cooling, the cooling hierarchy under the London Plan is thoroughly considered, and as with all our projects we only recommend active cooling where necessary. Please refer the to attached cooling hierarchy commentary document for further commentary.

As the fabric is largely existing and being retained the 'lean' measures applicable to the refurbishment are largely restricted to the building services design. Existing windows and shopfronts are largely being retained, with only the rooflight in the lightwell being reduced in size by approximately 50%. As part of the tenant fit-out works, LED lighting will be stipulated in order to limit internal heat gains.

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As the fabric is existing, with no proposed change to the overall building height being considered; it is not possible to provide high floor to ceiling levels. Whilst limited, existing fabric elements with high thermal mass shall be left exposed and this has been considered within our heating and cooling assessment.

The existing ground floor shopfront windows on the 15 Shorts Garden are mainly fixed with a few small opening panes. There are existing sliding/folding shopfront doors on the pedestrianised Neals Yard elevation which will provide some crossflow natural ventilation and free cooling when conditions allow, therefore reducing the overall annual cooling demand; however, this only offer limited cooling benefit in peak summer conditions when 30°C+ air would be being introduced, without active cooling.

As the unit is intended for restaurant use and therefore will likely contain a kitchen, the anticipated heat gains are high and based on the limitations noted above it is deemed that there is a requirement for active cooling to be provided to meet the peak summer conditions. This will allow the space to be suitable for use by incoming tenants and their customers. Figure 1 below sets out the anticipated high cooling loads for restaurants and retail spaces.

Table 36: Cooling loads

Type of building	Cooling load	Ref
Banks	160 W/m <sup>2</sup>	Data from construction projects
Hotels <sup>i</sup>	150 W/m <sup>2</sup>	
Offices <sup>ii</sup>	87 W/m <sup>2</sup>	
Restaurants	200 W/m <sup>2</sup>	
Retail establishments	140 W/m <sup>2</sup>	
Data centres <sup>iii</sup>	450 to 1,285 W/m <sup>2</sup>	Wang et al <sup>[54]</sup>

Figure 1 – Extract from BSRIA Rules of Thumb BG85/2024 (Table 36)

As an air source heat pump is proposed to provide space heating, BSEC Design have proposed utilising the same system in reverse to provide cooling benefit during peak summer conditions. The external condensing unit shall be located in the existing lightwell at 1<sup>st</sup> floor level in an acoustic enclosure to meet the acoustic requirements. The condensing unit will be sized to meet the heating load and will be selected from among the most space efficient available on the market.

Based on previous experience on similar projects of a comparable scale in the local area we can confirm that thermal modelling will not yield different results that would result in comfort cooling not being required to achieve suitable internal temperatures during the summer months.

The units proposed will be of the current generation with the latest energy efficient technology and feature a refrigerant with zero ozone depletion potential (ODP) and low global warming potential (GWP).

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All works will be undertaken to the highest standards and 'best practice' procedures to ensure the highest environmental and energy efficient rating (and improvement upon the existing).

We trust the above and attached provide sufficient information to support the planning application.

Yours sincerley,

A handwritten signature in black ink, appearing to read 'J. Turton', with a long horizontal stroke extending to the right.

**James Turton**