

Noise and Vibration Attenuation Strategy

Builders Yard Mead Farm Stane Street Slinfold - Planning Ref: DC/24/1184
Pre-Commencement (Slab Level) Condition No.5:

Background

This noise and vibration attenuation strategy follows the evidence and recommendations contained with the “Noise Impact Assessment Former Builders Yard, Stane Street, Slinfold” carried out by RF Environmental.

This strategy provides noise and vibration attenuation, along with ventilation sufficient to prevent overheating and maintain thermal comfort and complies with the required standards (such as BS8233:2014) and meets the Local Planning Authority's (LPA) approval.

1. Noise and Vibration Attenuation

- **Assessment of Existing Noise Levels:**
 - FR Environmental conducted a noise survey which includes both daytime and nighttime measurements to determine existing noise levels, particularly those from traffic, industrial, or other external sources.
 - The survey followed the guidelines set out in **BS8233:2014** for noise levels in residential environments.
- **Design of Noise Attenuation Measures:**
 - Based on the noise survey results, the following noise attenuation measures include:
 - Double glazed windows & doors to reduce external noise.
 - Acoustic ventilation provided by means of Simon Acoustic Trickle Vents
 - Sound insulation in walls, floors, and ceilings as per detailed with the Building Control Drawings issued by Code L6 Architects Ltd.
 - Mechanical ventilation systems to bathrooms & kitchen to be low-noise fans.

2. Ventilation and Thermal Comfort

- **Ventilation System Design:**

- The ventilation design will meet **Part F of the Building Regulations** (Ventilation) to maintain air quality and comfort, but preferred natural ventilation by means of window openings will be utilised to avoid unnecessary excessive noise intrusion.
- Overheating Prevention will be provided by reverse cooling of Air Source Heat Pumps utilising underfloor pipework with condensation prevention.
- Thermal comfort guidelines, such as those from CIBSE or ASHRAE, and ensure that the temperature in habitable rooms stays within the acceptable ranges (typically between 18°C and 24°C) will be followed.

- **Glazing Plan:**

- High performance Double Glazing will be designed to meet both the noise attenuation requirements and thermal performance.
- Details of windows and external doors specifications attached, which including glazing types, sizes, and their corresponding U-values (thermal insulation) and Rw values (sound insulation).

3. Compliance with BS8233:2014

- BS8233:2014 provides guidelines for achieving acceptable noise levels in internal environments. The following levels should be adhered to in habitable rooms:
 - **Daytime:** 35-40 dB LAeq for living rooms and bedrooms.
 - **Nighttime:** 30 dB LAeq for bedrooms, with consideration for peak noise levels (LAm_{ax}) not exceeding 45 dB.
- For any rooms where the LAm_{ax} exceeds these levels, attenuation methods such as improved glazing or more robust acoustic insulation should be applied.

4. Post-Construction Validation

- Once the scheme is implemented, post-construction testing will be satisfied by LABC sign-off to verify that the correct products and installation meets the required noise attenuation and thermal comfort standards.