



Environmental Protection COMMENTS [Applicants responses in red text]

Case Number	20231165
Case Officer	Mr Ethan Bonthron
Address	24 Stone Street, Gravesend, Kent, DA11 0NP

Proposal	Change of use of the first and second floor levels to a house in multiple occupation including internal alterations.
Consultation Expiry Date	8 February 2024
Date of Response	8 February 2024 (JO)

There have been concerns with previous applications at this site in relation to noise (from both external and internal sources), air quality and also potential issues with the extract flue of a wood burning pizza oven at the rear of the adjacent premises. A Noise Impact Assessment (NIA), an Air Quality Assessment (AQA) and also details regarding the proposed Mechanical Ventilation Heat Recovery System (MVHR) have been submitted with this application and have been reviewed. Comments are as follows:

Noise

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As with the earlier application, there are still some inconsistencies in stacking arrangements of the rooms. Bedroom 4 (1st floor) is under the kitchen on the 2nd floor and bedroom 8 (2nd floor) is over the kitchen on the 1st floor. Kitchens are inherently noisier than bedrooms particularly if being used later at night and this could lead to noise problems. Ideally these rooms should be swapped over so that kitchen are under/over each other and the same for the bedrooms. If these rooms can't be swapped over, then it is recommended that the floor/ceiling partition between these are upgraded so that they are of a standard greater than that required under Building Regulations – this is ideally an enhancement of the minimum levels stated in the Building Regulations of 10dB. [The layout has been revised so that there is now a single shared kitchen at first floor level. Please refer to drawing No. 3580/P/11 Rev C.]

With regards to the 'Acoustic Assessment Report' dated 13 November 2023 by RBA Acoustics (ref 12973.RP01.AAR.1), there are some concerns with this report: [Please refer to revised Acoustic Assessment Report Reference: 12973.RP01.AAR.3 which responds to the following 3 bullet points. For ease of reference the responses are also included below.]

- Although the report has apparently been revised to consider the MVHR system that is to be installed for the HMOs, no consideration of this been given in terms of any impact on internal noise levels in relation to the criteria in BS8233:2014. This is essential as silencers may be required, ducting may need to be insulated/boxed in etc. This also needs to include the MVHR system working in the summer to provide effective cooling (see further details in the MVHR section below). [We have given consideration to the need for attenuation to control MVHR into rooms. A performance specification for in-line attenuators is given along with a recommendation for crosstalk silencers to address sound transfer via common ductwork. With these in place, the LPA targets will be achieved. The MHVR design has been revised to include the recommended attenuation as indicated on drawing No. 2997-57-00 Rev P5.]
- The report recognises that the sound insulation between the internal partition needs to be addressed. For partitions (both wall and floor), between the HMOs this needs to be at the minimum levels as required by Building Regulations Document E. The exception to this is where stacking inconsistencies occur (see above). The report recognises that this can be difficult in historic buildings, and due to decorative/historic features on the ceilings, only the floor areas can be upgraded. The report advises 100mm of mineral wool between timber joists but does not provide any information as to what sound reduction this will provide or how this measures against the Building Regulations criteria. This is required. [We have liaised with the project architect to agree a requirement for an additional Composite Board system above the existing floorboard line (in addition to the installation of mineral wool to the floor void). With these in place, the Building Regulations target for sound insulation between residential areas will be achieved.]
- With regards to the floor/ceiling partition between the pub/commercial on the ground floor and the HMOs on the 1st floor, the levels of sound insulation required is greater than that in the Building Regulations This is recognised in the report (6.1) as needing to be an improvement of 5-10 dB above the Building Regulations criteria. We would require a 10 dB improvement, particularly as the ground floor is a pub (inherently noisy). Again, the report has stated this requirement, but has not provided any means to achieve this. More information is therefore needed. [We have liaised with the project architect to agree the design for an additional Mass Barrier Acoustic ceiling at the same level as the existing ceiling and installation of mineral wool in the floor void. With these in place, the LPA target for sound insulation between ground and first floor will be achieved.]

Air Quality Impact

The methodology and findings of the AQA are accepted. Although the site falls within an existing AQMA area, monitoring has shown a slight decrease in NO₂ levels recent years. In addition, as the proposed HMO's are at 1st and 2nd floor levels, the ingress of exhaust fumes is likely to be less than at the ground floor level. In this respect, air quality issues are therefore reduced.

The scheme proposes the use of a mechanical ventilation (MVHR) system and a layout plan and details have been proposed. There are some concerns with the proposal which are detailed further in the next section. However, in terms of air quality, the introduction of an MVHR system is a positive way to address any concerns as it will provide an alternative means of ventilation and cooling to the HMO's to opening windows.

The air intakes for the MVHR system are at roof level which is acceptable. This will ensure that clean air is drawn into the building and the MVHR system will provide an alternative means of ventilation to keeping windows open which will address the noise at the front and side and also any ingress of fumes being expelled from the extract from the wood burning pizza oven at the rear of the property. Ventilation can be via openable windows for purge ventilation at the rear and acoustic trickle vents at the front and side. [Background ventilation is provided by the MVHR systems, and purge ventilation is provided by the existing openable windows.]

Mechanical Ventilation Heat Recovery System (MVHR)

Clarification and more information is needed on this. Two Titen HRV 1.6 Q units, which Titen also refers to as MVHR are proposed – 1 for each floor of the HMO units. There do not appear to be any individual controls per HMO room as the main unit (and therefore it's assumed the controls) will be in the kitchens. One of the boxes at the bottom left of the plan advises that 'The individual apartment shall be provided with independent MVHR within each apartment...'. Possibly, the system has been designed with the idea that each floor is an individual apartment as opposed to each room being a separate tenancy unit? This needs to be clarified as not having individual heating/cooling units could cause problems if for example, the occupant of one HMO wanted to be warmer than another etc. [As the ventilation of each floor is centralised, there would not be individual controls for each separate bedroom. Individual ventilation control in each bedroom would require individual MVHR units to each bedroom which is not practical or economical. A momentary switch for the boosted setting shall be in the communal kitchen. Other controls shall be located within the MVHR cupboard only accessible by the landlord, to ensure the MVHR would not be turned off, or settings tampered with, by the tenants. The design treats the entire HMO as a single duplex dwelling. Therefore, the box on the lower right is referring to the whole HMO.]

The units do have 'summer boost' and 'summer bypass' controls. This means that the supply and extract fans can run on full speed when in summer bypass mode in hot weather so that external air can be brought in without being preheated. Although this isn't an A/C system as such, it will result in more air being brought in from outside and the stale air inside being extracted out at a higher 'turnover' – so keeping the rooms more comfortable. Whether the units proposed are capable of adequately dealing with the amount of air changes needed to do this with the number of individual HMO units is not clear. To provide effective cooling to a space more air changes per hour are typically needed to standard MVHR air flow rates. The applicant needs to demonstrate that in the summer boost/bypass mode, the MVHR systems are capable of the extensive cooling needed with the windows being kept closed to keep out the external noise. If not, larger MVHR units may be needed which would also involve larger ducts, larger silencers, insulated ducting etc, which might not work either from the cost perspective or installation in a listed building. [We confirm that the MVHR units have both a boosted flow rate and a summer bypass setting. (Please refer to the product data sheets attached) At the boosted rate of 100 l/s, the MVHR units provide

a ventilation rate of 1.4 air changes per hour which is almost 3 times the normal rate of 0.5 air changes per hour. We consider this to provide adequate background ventilation. Following a discussion with Environmental Protection, it has been agreed that an overheating analysis report is not required to be submitted as part of the planning application.]

An MVHR Checklist is available from Environmental Protection which details the information that is usually required to be submitted. [Please find attached the completed MVHR System Checklist.]

Based on the comments above, the application cannot be supported as it currently stands and more information is needed. Although these matters can in some instances be dealt with by suitable conditions, it is recommended that these matters are resolved prior to determination. It is crucial that the necessary means to address the noise issues and provide the mechanical ventilation are appropriate and feasible/acceptable in a Listed building. [We hope that the revised and additional information provided is acceptable, but please let us know if you require anything further.]