

Condition 23a (Pre-completion testing indoor ambient noise)

CONDITION

Prior to first occupation of the development, a pre-completion testing report must be submitted to and approved in writing by the local planning authority. This report must show compliance with the following:

a) Noise tests showing that indoor ambient noise levels in living rooms and bedrooms meet the standards within BS 8233:2014 (with the mechanical ventilation system off, on and on maximum boost setting). Internal L_{Amax} levels should not exceed 45dB more than ten times a night in bedrooms.

b) Noise testing showing that all outdoor amenity areas comply with the 55dB WHO Community Noise Guideline Level.

Non-compliance with any of the above levels will require additional mitigation measures to be incorporated into the development prior to first occupation of the development. Such measures must be submitted to and approved in writing by the Local Planning Authority before the development is occupied.

All approved mitigation measures which secure compliance with the terms of this condition must be implemented and retained. If any approved mitigation measure requires replacing, the replacement must perform to at least the same sound protection level as previously approved.

REASON

To ensure that intended occupiers of the development are not subject to unacceptable levels of noise due to transport sources, in accordance with Policy R19 of the Welwyn Hatfield District Plan 2005, Policy SADM 18 of the Welwyn Hatfield Borough Council Draft Local Plan Proposed Submission August 2016, and the National Planning Policy Framework.

RESPONSE

A long-term environmental noise survey has been undertaken in May 2022 to inform the design of the external façade to ensure that internal ambient noise levels comply with BS8233:2014 requirements. Based on the proposed external façade build up (Brick-slip cladding), the following glazing performance per elevation has been recommended in Table 1 below:

Table 1: Minimum sound reduction performance R(dB) for the glazed elements of each façade

Elevation	Room	Glazing example	125	250	500	1k	2k	4k	R _w / R _w + C _{tr}
Eastern ¹	Bedrooms and Living Rooms	10/12/10.8mm	28	35	44	47	44	55	43 / 39
Southern	Bedrooms	6/16/8.8mm acoustic laminate	27	32	42	43	37	51	38 / 34
	Living rooms	6/16/6mm	22	22	30	38	34	38	33 / 29
Northern and Western	Bedrooms and Living Rooms	6/16/6mm	22	22	30	38	34	38	33 / 29

Notes

¹ This includes the dual aspect flats in both northern and southern corners of the eastern elevation.

It is understood the ventilation strategy for the development will be based on ADF's System 4 (continuous mechanical supply and extract with heat recovery, MVHR) for all dwellings. It should be noted that the design of the MVHR systems will aim at achieving at least the internal building services noise criteria set out in CIBSE guidance (NR25 in bedrooms and NR30 in living rooms), such that cumulative internal noise level due to external noise intrusion and mechanical services noise comply with the criteria in BS8233. Ventilation layouts for the MVHR systems are still being developed, therefore duct-borne and noise breakout calculations have not been undertaken yet.

This condition will be addressed in full following a scheme of pre-completion testing.

Condition 23b (Pre-completion testing indoor ambient noise)

CONDITION

Prior to first occupation of the development, a pre-completion testing report must be submitted to and approved in writing by the local planning authority. This report must show compliance with the following:

a) Noise tests showing that indoor ambient noise levels in living rooms and bedrooms meet the standards within BS 8233:2014 (with the mechanical ventilation system off, on and on maximum boost setting). Internal LA_{max} levels should not exceed 45dB more than ten times a night in bedrooms.

b) Noise testing showing that all outdoor amenity areas comply with the 55dB WHO Community Noise Guideline Level.

Non-compliance with any of the above levels will require additional mitigation measures to be incorporated into the development prior to first occupation of the development. Such measures must be submitted to and approved in writing by the Local Planning Authority before the development is occupied.

All approved mitigation measures which secure compliance with the terms of this condition must be implemented and retained. If any approved mitigation measure requires replacing, the replacement must perform to at least the same sound protection level as previously approved.

REASON

To ensure that intended occupiers of the development are not subject to unacceptable levels of noise due to transport sources, in accordance with Policy R19 of the Welwyn Hatfield District Plan 2005, Policy SADM 18 of the Welwyn Hatfield Borough Council Draft Local Plan Proposed Submission August 2016, and the National Planning Policy Framework.

RESPONSE

We are currently engaging directly with the Local Authority about this condition. See below, the details that are being discussed.

Having undertaken a baseline environmental noise survey on site in May 2022 and subsequent acoustic modelling, we have predicted that external noise levels in all balconies directly facing Comet Way (and some of those that partially overlook it, e.g. northern and southern elevations); will likely exceed the 55 dB LA_{eq,16h} criterion.

Guidance set out by ProPG has therefore been used to put into context the extent and impact of these exceedances. The guidance suggests alternatives to alleviate the potential impact of noise in external amenity areas in developments located in busy urban areas where major infrastructure surrounds residential development (such as this case).

The Stage 2 – Element 3 of ProPG guidance document states the following:

“3(v) Where, despite following a good acoustic design process, significant adverse noise impacts remain on any private external amenity space (e.g. garden or balcony) then that impact may be partially off-set if the residents are provided, through the design of the development or the planning process, with access to:

a relatively quiet facade (containing openable windows to habitable rooms) or a relatively quiet externally ventilated space (i.e. an enclosed balcony) as part of their dwelling; and/or a relatively quiet alternative or additional external amenity space for sole use by a household, e.g. a garden, roof garden or large open balcony in a different, protected, location); and/or a relatively quiet, protected, nearby, external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or a relatively quiet, protected, publicly accessible, external amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within a 5 minutes walking distance). The local planning authority could link such provision to the definition and management of Quiet Areas under the Environmental Noise Regulations.”

The presence of the communal amenity spaces on the 4th, 5th and 6th floors (where predicted noise levels should satisfy the WHO requirement, shown below) and the nearby green spaces located on Mosquito Way or Ellenbrook Fields further west (about 5-10 minute walk, respectively); both fulfil the last 2 bullet points in the ProPG guidance above and will provide most residents a quieter, protected, alternative communal space compliant with the 55 dB LA_{eq,16h} criterion.

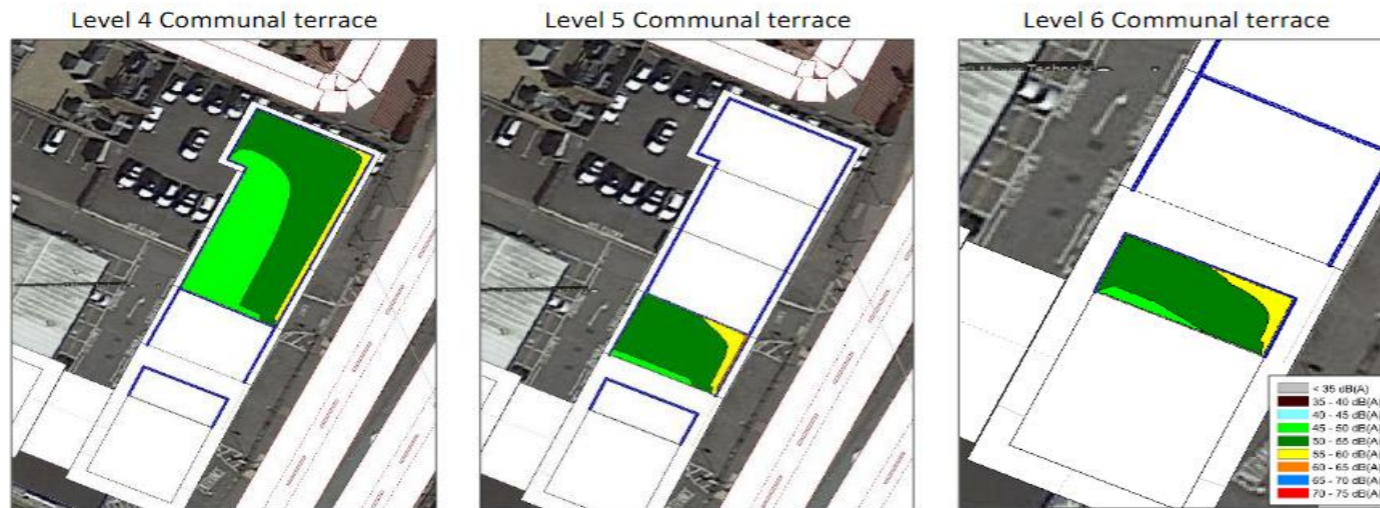
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Condition 23b (Pre-completion testing indoor ambient noise)

RESPONSE

Figure 1: Predicted external daytime LAeq,16hr noise levels in communal terraces (plots show levels at 1.5m above local roof level)

Figure 4.1: Predicted external daytime LAeq,16hr noise levels in communal terraces (plots show levels at 1.5m above local roof level)



BS8233 also mentions that a balance is needed between the provision of private external amenity areas for enjoyment of residents and the acceptance of periodically noisier balconies; where development is desirable. It is likely that most residents would prefer a balcony, regardless of the external noise levels it is exposed to, rather than no balcony at all.

It should be noted that the condition requires pre-completion testing in all outdoor amenity areas to show compliance with the 55 dB criterion in WHO. As discussed above, this criterion will likely be exceeded on all balconies directly facing Comet Way (and some of those that partially overlook it, e.g. northern and southern elevations); therefore it is unlikely that measurements will show compliance in such locations. However, residents will have access to alternative, quieter external amenity areas available for their enjoyment, both within the development itself and also in the neighbouring green spaces surrounding the development.

With all the above in mind, it is considered that localised exceedances in certain private balconies of the scheme should be acceptable given the provision of quieter, accessible communal areas available to the residents.

The structural design of the development, which is of lightweight steel construction and will employ modern methods of construction (MMC) to reduce the amount of concrete used during the build and speed up the construction process (with several pre-fabricated elements build off site); make it unfeasible to provide heavy solid balconies or alternative fully enclosed solutions that could potentially provide minor reductions in the external noise levels likely to be present in those balconies facing Comet Way. So, we consider that even assuming best practicable design solutions, external noise levels on those balconies may exceed the 55 dB LAeq,16h WHO criterion, which would then compromise the discharge of planning condition 23(b).

We therefore propose that a relaxation of the condition is agreed, and the above context is considered, given that this is quite a common issue in most urban highly populated areas near road or rail infrastructure. Testing in the quieter areas of the scheme will prove compliance with the ProPG approach, which we consider to be suitable and sufficient for this development.

This condition will be addressed in full following feedback from the LA and a scheme of pre-completion testing.