

**HELENE CLOSE, BRACKLEY**  
**MARCH 2019**  
**OUR REF: 24581/03-19/**

## **Confirmation of Outstanding Acoustic Issues**

Taylor Wimpey North Thames have requested that M-EC Acoustic Air confirm the required glazing specifications to the development known as Land North of Chequersfield.

The following technical Information has been issued in response to this request. A copy of the updated drawing has also been issued, as an addendum to this Technical Note, and should be read in conjunction with the details contained hereinafter.

### Balconies

Based upon the monitoring carried out by M-EC Acoustic Air, the results indicate that the required outdoor sound level, of 55 dB(A), is met at all façades where there are balconies shown. Therefore, these areas should not be classed as 'internal living spaces', and no further attenuation is required in order to achieve the previously stated sound level.

### Glazing Specification

Based upon the results of monitoring carried out by M-EC Acoustic Air, it is considered that glazing to bedrooms on this development should achieve a minimum sound attenuation value of  $R_w$  36 dB. Glazing to Living Room areas should achieve a minimum sound attenuation value of  $R_w$  29 dB.

A typical glazing configuration that would achieve a sound attenuation value of  $R_w$  36 dB would be 10/12/6 i.e.: 10mm float pane/12mm cavity/6mm float pane. A typical glazing configuration that would achieve a sound attenuation value of  $R_w$  29 dB would be 4/12/4 i.e.: 4mm float pane/12mm cavity/mm float pane (*typically considered as Standard Thermal Double Glazing*).

This information has previously been conveyed to the Local Authority, via correspondence with the appropriate EHO, Karl Riahi. This correspondence states the glazing specifications being used on this development, and the justifications for using them. A copy of the email has been appended to this Technical Note, to provide an *aide memoire*.

Written By

Daniel Newbery, BSc, AMIOA

Matthew Gore, BSc, MSc, MIOA

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## Matthew Gore

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**From:** Rosie James  
**Sent:** 05 November 2018 15:15  
**To:** Karl Riahi  
**Cc:** Matthew Gore  
**Subject:** 6/2018/1519/MAJ - Land North of Chequersfield

Dear Karl,

Further to our conversation earlier, regarding noise at the proposed Land North of Chequersfield development, we understand that when you visited site, operations (including reverse beepers and other activities) were audible. As this wasn't the case on our site visits, this wasn't taken into account within the assessment.

Therefore to ensure that the commercial noise will not impact adversely upon future residents, we need to ensure that a suitable mitigation strategy is proposed. Currently, the mitigation strategy (to attenuate sound from the adjacent rail line) comprises glazing to provide approximately 29dB  $R_w$  for living rooms during the daytime, and approximately 36dB  $R_w$  for bedrooms during the night-time.

As sound from commercial operations was not present and therefore not measured when we visited site, we have undertaken calculations based on what we reasonably assume the loudest activity to be (reverse alarms, rather than engine noise, dozers etc), based on observations, and measured  $L_{Amax}$  data taken from a similar operation (Forterra at Somercotes, Derbyshire). Our highest measured forklift reverse alarm plus manoeuvre at 1m from source was  $L_{Amax}$  92dB and  $L_{Aeq,10\text{ second}}$  90dB.

Taking into account distance attenuation to the nearest proposed dwellings at the proposed site, the  $L_{Amax}$  level of 92 dB(A) has been corrected using the following formula:

$$) \quad L_{Aeq,T} = 20\log(R1/R2) \text{ dB(A)}$$

o Where  $R1$  = distance from forklift to survey location (1m)

$R2$  = distance from nearest Easymix boundary to nearest proposed residential façade (50m)

Calculation indicates that the distance from Easymix to the nearest proposed dwelling would provide approximately 34dB(A) sound attenuation, leading to a sound level of approximately 58dB(A). Taking account +3dB façade correction, we can assume that the sound level at the nearest proposed façade would be approximately 61dB.

Assuming the worst case, that the reverse alarms could operate all of the time, a facade  $L_{Aeq,T}$  or  $L_{Amax}$  level of 61dB would require attenuation of 26dB daytime (living rooms), and up to 31dB night-time (bedrooms) to meet BS8233 criteria. This level of attenuation will already be provided by the proposed glazing strategy.

Even if other sound sources are operating, the current glazing specification allows for up 3dB additional (day) and 5 dB (night), which means other sources would have to operate up to the same level at the same time before further attenuation would need to be provided by glazing.

Pragmatically, we therefore consider that the proposed mitigation strategy sufficient to attenuate against adverse impact from commercial noise. However, to provide comfort on this matter, glazing to provide a higher  $R_w$  can be installed, if you require.

I would appreciate your thoughts on the above and whether you consider it sufficient to cover off this matter.

Thanks in advance.

Rosie James  
Associate Director (M-EC Acoustic Air)

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