

Technical Note

Project: Rosa's Thai, 26 Earlam Street

To: Tito Arowobusoye, First Plan

Subject: Plant noise impact

From: Jon Stump

Date: 11th May 2021

cc: Mac Plumptre, Rosa's Thai

Ref: 88299/TN3

Dear Tito,

Further to our recent site visit regarding the noise from mechanical services equipment at the Rosa's Thai café at 26 Earlam Street, we can confirm the following.

Background noise survey and criteria

A planning condition imposed on the site by Camden Council requires noise from plant to be no louder than a level 10dB below the background noise level, when assessed at noise sensitive residential properties.

Following subsequent discussion with Camden Council (including an email from the Noise Officer of 24th March 2020), it was agreed that a limit of 34dBA at the receptor window would be acceptable.

Site visit – 11th May 2021

Following recent works undertaken to the supply and extract systems (including a new extract fan), NSL attended site on the morning of 11th May 2021 to undertake noise measurements with a view to determining the noise level at the nearest residential receptor.

Prior to the measurements being taken, the extract fan was commissioned such that it was operating at its correct duty. This entailed a slight reduction in running speed. The fan speed controller is now locked such that it can not run above 43Hz (note – 50Hz is the maximum possible setting).

Unfortunately, it has not been possible to arrange access to the residential property overlooking the rear lightwell of the restaurant, nor to any other suitable areas. As such, measurements are required to be taken within the restaurant's demise (or from its windows). Losses for screening and distance will then need to be applied to the measured noise levels.

Noise levels were measured from the upper-storey staff room with the microphone on a vertical extended pole. This measurement position, while more accurate than readings taken at low level within the lightwell, will still require some corrections to be made to determine the noise level at the window.

- The window is further than the microphone from the extract duct, so will benefit from increased distance losses from any breakout.
- While a similar distance from the extract discharge compared to the microphone, the window is oriented such that the discharge is behind the window, with some further screening possibly provided by the chimney structure.
- The microphone was directly above the top of the lightwell, in full line of sight of the supply and extract systems at low level, while the window is set back horizontally resulting in further screening from noise sources within the lightwell itself (although it is appreciated that noise sources at the base of the lightwell do not act as point sources with sound rising up the lightwell).

Noise levels were measured with the supply and extract systems running together. It is understood that both the supply and extract systems were running at "typical" required duties.

Results

Overall noise levels with the fans running were not significantly higher than levels measured with both systems switched off. The results of the readings, at the microphone position, are shown in the table below.

Plant	Measured noise level at microphone position
Both systems running	48.8 dB L _{Aeq}
All systems off (ambient)	48.4 dB L _{Aeq}

As the 'On' and 'Off' measurements are close, it can be determined that the contribution to the measured level from the fan systems is around 38dB(A) or lower at the microphone location, which was directly above the lightwell with line of sight of all equipment.

While it is appreciated that 'point source' distance losses do not apply from the bottom of the lightwell to the top, a -5dB correction to account for the screening and distances involved (as outlined above) is considered appropriate.

The resultant cumulative noise level from both systems at the window is therefore 33dB(A), in compliance with the required level.

We trust the above to be in order at this stage; please do not hesitate to contact us with any further queries.

Kind regards,

Jon Stump

For and on behalf of Noise Solutions Ltd