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Environmental noise assessment.

Address:

206 Kilburn High Road, London.

Client:

Mr Amit Natha

01 June 2016

Engineer: Simone Longo AMIOA

Acoustic Report – Environmental Assessment, (Noise). 206 Kilburn High Road . Engineer: Simone Longo AMIOA	N. M. & S. www.noisemeasurements.co.uk - www.nmsacoustics.com e: info@nmsacoustics.com t: 0800 014 8482 - m: 07887561945 (24 hours)

SUMMARY.

1.0 Survey address.

1.1 This noise survey took place at 206 Kilburn High Road, first floor window at the street side.

1.2 The measuring microphone was positioned at 1 m from the building façade for 24 hours consecutive noise monitoring.

1.3 The aerial view below taken from Google Earth indicates approximately the site and marked in red colour the microphone position used for the survey.

2.0 Environmental Noise survey details.

2.1 At the front side of the building (street side) position at 1 m from the building façade, the noise monitoring was carried out from 10.00 on the Friday 27 of May 2016 until 10.00 of Saturday 28 of May 2017.

3.0 Environmental noise survey results.

3.1.1 Environmental noise result for day evening and night are given in table below.

Environmental noise survey result. Pos “A” street side.	
DAY	73.0 dBA LAeq 12 hours.
EVENING	72.6 dBA LAeq 4 hours.
NIGHT	71.1 dBA LAeq 8 hours.

4.0 Subjective analysis of the environmental noise or soundscape at the site.

4.1.1 The site front street side is affected primarily by constant traffic noise from the Kilburn High Road, no other noises are audible.

5.0 Weather condition:

5.1 No remarks.

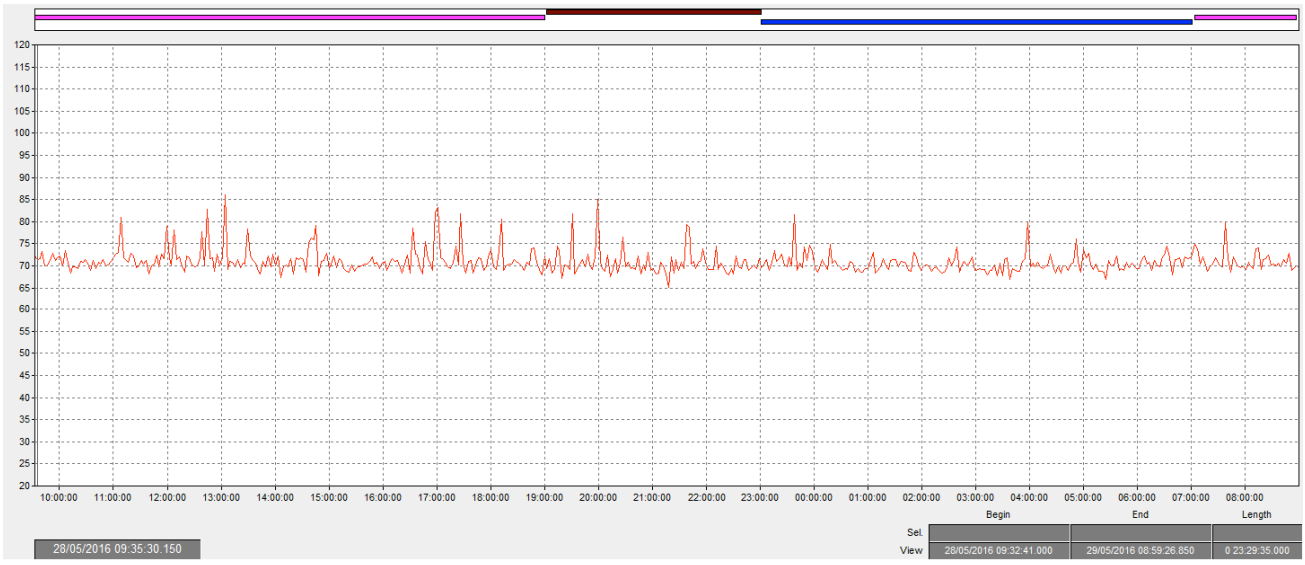
6.0 Instrumentation

6.1 Table showing instrumentation data.

Instrument type:	Norsonic Sound Analyser Nor-140		Serial no: 1402725
Preamflifier type:	Norsonic Type Nor-1209		Serial no: 12247
Microphone type:	Norsonic Type Nor-1225		Serial no: 24301
UKAS ILAC periodic laboratory verification by:	UKAS ILAC LABORATORY 0789 CERTIFICATE U17345		
Date of last verification:	04/11/2014		
Calibrator type:	Norsonic Type 1251		Serial no: 31943
UKAS ILAC periodic laboratory verification by:	UKAS ILAC LABORATORY 0789 CERTIFICATE U17243		
Date of last verification:	04/11/2014		
Measurement title:	EA assessment / sampling technique.		Date: 27-28/05/2016
Measurement duration: 24 hours.	Continuous integration.	Period length: 15 min.	Filter bandwidth: (A) 1/1 Oct
Initial calibration level:	113.9 dB	Sampling frequency: 50 ms	End calibration level: 113.9 dB

7.0 Noise survey data in graphical form.

7.1 Time Vs. Level graph.



8.0 Recommended internal noise level, design criteria.

8.1 Good standard for living spaces requires internal noise level of 35 Day – 30 Night for unoccupied bedroom and living rooms.

8.1.1 According with the environmental noise results, the front of the building envelope facing the street side should be designed to achieve no less than **41.1 dBA** noise reduction *R'*

8.1.2 *Assuming the building envelope made of brickwork and plasterboard on the inner side with an estimated noise reduction performance of no less than 45 dBA R'*

8.1.2.1 *It is recommended to design the internal layout of the building placing **bedroom at the rear**, or either making a buffer zone consisting of a separating partition made of at least two layers of acoustic plasterboard 15 mm minimum density 12 kg per square m. and a separating door.*

8.2 The required performance of double-glazing window to obtain the recommended internal noise is given in table below.

Front side of the building	LAeq16Hrs (DAY)	LAeq8Hrs (NIGHT)
External noise level.	73.0 dBA	71.1 dBA
Recommended glass thickness: 4 mm glass R*w 29dBA (BS: 12758 2002)*	-29 dBA	-29 dBA
Estimated noise reduction *R'* of the recommended buffer zone separating living spaces from the external façade wall at the front of the building.	-26 dBA	-26 dBA
Resulting internal level	18 dBA	16.1 dBA

N.B. Internal Ventilation.

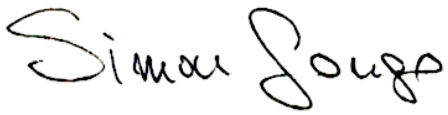
1.1 Passive trickle ventilation acoustically rated at 30 dBAnoise attenuation can be used for the rear of the building, and an acoustically rated system is suggested for the front Façade, with rating of -40 dBA noise reduction.

1.1.1 As example the Ryton system made a suitable passive background ventilator the TAL9HMCWL is rated at 40 dB.

9.0 Conclusion.

9.1 The noise survey demonstrated that, on the basis of estimated environmental noise levels, with the proposed construction details describe in this report is possible to achieve target indoor noise level as recommended by WHO 35dBA Day and 30dBA Night, therefore the planning application in relation to noise is recommended for approval.

Approved for Issue on behalf of
Noise Measurements & Solutions



Simone Longo
Acoustic Engineer MA - AMIOA – AIA

Appendix A

SOURCE OF INFORMATION

Information used in this assessment has been obtained from the following sources:

- Planning Policy Guidance PPG24.
- BS8233: 2014 Sound Insulation and noise reduction for buildings – Code of Practice.
- BS4142: 2014 Method for rating industrial noise affecting mixed residential and industrial areas.
- BS7445: 1991: Description and measurement of environmental noise.
- Engineering and noise control Third edition.
- Acoustic calculations: NOR-Review software.

Appendix B

GLOSSARY

dB Decibel. The decibel scale measures levels relative to a reference, either a fixed reference when measuring absolute levels, or another level when expressing changes. If the quantity is power- like (i.e. could be expressed in watts) the level in decibels is 10 times the common logarithm of the ratio of the measured quantity to the reference quantity. If the quantity is a physical amplitude such as pressure or voltage, and the power of the quantity is related to the its square, then the decibel level is 20 times the common logarithm of the ratio of the measured quantity to the reference quantity. Thus doubling of power gives a 3 dB increase, while a doubling of pressure gives a 6 dB increase.

L*A* A-weighted sound pressure level. The units are decibels, abbreviated dB (or dB(A) if the subscript A is omitted). A- weighting is a frequency weighting which discriminates against low frequency and very high frequency sound in order to approximate the frequency response of the human ear. The subscript *s* or *f* signifies that the time constant of the measurement is either 'slow' (1 second) or 'fast' (125 milliseconds)

L*Amax* The maximum value of L*A* reached during one or more noise events. (See reference to '*s*' and '*f*'

subscripts above).

L*Aeq,T* Equivalent continuous sound level. The root mean square sound pressure level determined over time interval T expressed in decibels. May be regarded as the level of a notional steady sound which has the same energy in period T as an actual time-varying sound which occurs in the same period. Sound level, duration and number of events are treated such that doubling the number of events, or doubling the duration of an event, has the same effect as doubling the number of sources (i.e. doubling the energy), which in the decibel scale is an increase of 3 dB (see above).

L*A10* The A-weighted sound level in dB which is exceeded for 10% of the time period stated.

ppv Peak particle velocity, the highest instantaneous velocity reached by a vibrating surface.

VDV Vibration Dose Value, the fourth root of the time integral of the fourth power of the frequency-weighted vibration velocity. The frequency weightings are specified in BS 6841:1987 and BS 6472:1992. The units are ms-1.75.

SELv Sound Exposure Level (or Single Event Level), the time integral of the squared sound pressure expressed in decibels. May be regarded as L*Aeq,T* normalised so that T is one second regardless of the actual duration of the event. Is used to construct L*Aeq,T* for a period containing many noise events, from knowledge of the SELv for each individual event.