

# SHARPS REDMORE

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## Report

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### Environmental Noise Report

79-81 Heath Street,  
Hampstead

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**Date** 20th December 2018

**Project No** 1818457

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## **1.0 Introduction**

- 1.1 Sharps Redmore has been instructed by Design Squared Ltd on behalf of Celtic Bakers to carry out an environmental noise assessment at 79-81 Heath Street, Hampstead, London NW3 6UG to assist with a change of use application from an estate agents to a bakery.
- 1.2 The surrounding area is a mixture of residential and ground floor commercial with busy daytime traffic along Heath Street.
- 1.3 The purpose of this report is to assess the proposed plant/extraction associated with the bakery use. Assumptions have been made based on the details provided in accordance with BS 4142:2014, to ensure the protection of the amenity of neighbouring residents and other sensitive receptors.
- 1.4 Section 2.0 contains a discussion of the available methods of assessment and assessment criteria. Section 3.0 of this report contains details of the environmental noise survey, Section 4.0 contains the assessment and the conclusions are shown in Section 5.0.

## 2.0 Assessment Methodology and Criteria

### National Policy

- 2.1 The National Planning Policy Framework (NPPF), as amended in July 2018, sets out the Government's economic, environmental and social planning policies for England and "these policies articulate the Government's vision of sustainable development." In relation to noise, paragraph 180 states:

*"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- *b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

- 2.2 The NPPF and NPPG reinforce the March 2010 DEFRA publication, "Noise Policy Statement for England" (NPSE), which states three policy aims, as follows:

*"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

- 2.3 Together, the first two aims require that no significant adverse impact should occur and that, where a noise level which falls between a level which represents the lowest observable adverse effect and a level which represents a significant observed adverse effect, then according to the explanatory notes in the statement:

*"... all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur."*

- 2.4 Therefore taking an overview of national policy it is clear that when considering the impact of noise one must consider the significance of any impact. The presence of an adverse impact in itself is not sufficient to refuse permission.

- 2.5 Objective guidance on the assessment of noise from plant and machinery can be found in BS 4142:2014 which describes a method for rating and assessing sound of an industrial and/or commercial nature according to the following summary process:

- i) Determine the background sound levels, in terms of  $L_{A90}$ , at the receptor locations of interest.
- ii) Determine the specific sound level of the source being assessed, in terms of  $L_{AeqT}$  level (T = 1 hour for day or 15 minutes at night), at the receptor locations.
- iii) Apply a rating level acoustic feature correction if the source sound has tonal, impulsive, intermittent or other characteristic which attract attention.
- iv) Compare the rating sound level against the background noise level; the greater the difference between the two, the higher the likelihood of complaints of the noise.
- v) Differences (rating – background) of around +10 dB is likely to be an indication of significant adverse impact (SOAEL) depending on context; a difference of +5 dB is likely to be an indication of adverse impact, depending on context. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending upon context.

2.6 The general intent of the planning system is to ensure that a development does not result in 'significant adverse impacts on health and quality of life' (NPPF para 180). BS 4142:2014 considers that the threshold of 'significant adverse impact' is likely to be around 10 dB or more... depending on upon the context.

2.7 As can be seen above the significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound exceeds the background sound level and the context in which it is placed.

#### Local Policy

2.8 The requirements of Camden London Borough Council regarding new building services are shown in the following table:

**Table 2: Extract from Camden Development Policy DP 28**

<b>Table E: Noise levels from plant and machinery at which planning permission will not be granted</b>			
<b>Noise description and location of measurement</b>	<b>Period</b>	<b>Time</b>	<b>Noise level</b>
Noise at 1 metre external to a sensitive façade	Day, evening and night	0000-2400	5dB(A) <LA90
Noise that has a distinguishable discrete continuous note (whine, hiss, screech, hum) at 1 metre external to a sensitive façade.	Day, evening and night	0000-2400	10dB(A) <LA90
Noise that has distinct impulses (bangs, clicks, clatters, thumps) at 1 metre external to a sensitive façade.	Day, evening and night	0000-2400	10dB(A) <LA90
Noise at 1 metre external to sensitive façade where LA90>60dB	Day, evening and night	0000-2400	55dB $L_{Aeq}$

i.e. unless the unit is considered to require an acoustic feature correction, the noise level from the plant should be 5 dB below the measured background ( $L_{A90}$ ) 1m from the nearest sensitive façade.

## Survey Details

- 3.1 A daytime noise survey was undertaken on the rooftop terrace of 81 Heath Street, London on the 11th December 2018; the position, shown in Figure 3.1 below was representative of the existing noise climate at the nearest residential façades.

**Figure 3.1: Monitoring location and sensitive receptor:**



- 3.2 Weather conditions throughout the survey period were dry with a light easterly breeze, suitable for noise measurements. The noise climate could be described as steady with constant and consistent road traffic noise from Heath Street dominating the noise climate.
- 3.3 All measurements were taken using a Type 1, 01 dB Fusion sound level meter (SLM) which was calibrated before and after use. Sample measurements periods were generally 15 minutes intervals.
- 3.4 Site notes and full results of the survey are shown in Table A1 in Appendix A and summarised in Table 3.1 below:

**Table 3.1: Summary of survey results**

Survey Summary	Typical Ambient $L_{Aeq}$ , dB	Typical Background $L_{A90}$ , dB
Daytime (0700-2300)	48	43

- 3.5 Based on the noise survey undertaken, and our understanding of the LPA's requirements, the following criteria have been adopted:

**Table 3.2: Adopted criteria**

Time period	Criteria $L_{Aeq}$ (dB)
Daytime (0700-2300)	38 dB (43-5)

- 3.6 It is understood from the applicant that this will be a day time only operation. If any of the plant were to operate at night, further noise measurements of the existing soundfield would need to be made in order to assign the correct night time criteria.
- 3.7 The position of the proposed WC flue extraction is shown in Figure 3.2 below. The external noise source (at the top of the flue) would be approximately 3-4m from the nearest residential window. Indicatively, further plant in terms of the kitchen extract and supply fans and an external VRF condenser to serve the internal FCUs will be sited at the rear of the property adjacent to the skylight and Tianyi Clinic as shown below, in the region of 5m from a residential property.

**Figure 3.2: Proposed location of w.c. extraction and flat roof plant**



- 3.8 A Thai restaurant and take away exists immediately next door to the proposal with opening hours up to 2300 hours midweek and Saturdays. Extraction equipment exists for the kitchen operations of the restaurant adjacent to the bakery proposal.
- 3.9 Precise details of the proposed plant for this proposal are not known at this stage and it is proposed to set plant noise limits at the nearby receptors for both non-tonal and tonal sources in terms of typical daytime background levels measured and LBC criteria. This is an approach that SR has used on many commercial applications where details of proposed plant are not known at the change of use planning stage and is not an unusual situation.
- 3.10 The noise limits can be set by an appropriate planning condition which can then be designed to at a later point incorporating enclosures, screening and other attenuation if considered necessary or appropriate.



## 4.0 Proposed plant noise limits

- 4.1 The main external plant zone which is proposed as part of this application is indicatively to be sited on the flat roof at the rear of the proposal.
- 4.2 The plant will indicatively consist of kitchen extract and supply fans and an external VRF condenser to serve the internal FCUs. There will also be a main building roof mounted extract fan serving the WC sited at high level.
- 4.3 The measured typical daytime period  $L_{Aeq}$  values are summarised above in table 3.1 and therefore the plant noise emissions would need to be controlled to 5 dB below the typical background  $L_{A90}$  during the times of operation or 10 dB below if the source is tonal or intermittent in nature further to LBC criteria and guidance within BS 4142:2014.
- 4.4 The details of proposed plant selections are not known at this stage, but will be developed by the appointed contractor in due course. Therefore in the absence of plant information to undertake a specific assessment the proposed approach is to identify and set plant noise limits which will form the design basis at a later point.
- 4.5 Based on the measured typical background noise levels, the following cumulative rating level limits in tables 4.1 and 4.2 would apply at the nearest noise critical receptors for the new plant.

**Table 4.1 – Proposed plant noise limits at nearby receptors  $dB L_{Aeq, 15 \text{ minutes}}$  for non-tonal sources**

Receptor	Typical Background $L_{A90}$ , dB	Proposed Limit $L_{Aeq}$ , dB
Daytime (0700-2300)	48	43

**Table 4.2 – Proposed plant noise limits at nearby receptors  $dB L_{Aeq, 15 \text{ minutes}}$  for tonal sources**

Receptor	Typical Background $L_{A90}$ , dB	Proposed Limit $L_{Aeq}$ , dB
Daytime (0700-2300)	48	38

## **5.0 Conclusions**

- 5.1 Environmental noise surveys have been carried out on the site to establish the existing ambient and background noise levels at likely times of operations in line with the requirements of LBC. Existing commercial operations operate along Heath Street immediately adjacent to this proposal.
- 5.2 Suitable criteria have been identified for plant emissions and plant noise limits have been identified at the nearest critical receptors to inform future design. Local screening, enclosures and other attenuation can be considered where necessary in order to ensure that these criteria will be met. It is suggested that these criteria are conditioned within the change of use application.
- 5.3 Further details will be developed in conjunction with Sharps Redmore and contractors as the detailed design progresses.
- 5.4 Taking into account the above it is concluded that the site can be developed as proposed without causing significant impact or disturbance to local residents as advised by the National Planning Policy Framework.

## **APPENDIX A**

### **ENVIRONMENTAL SURVEY DATA**

**Table A1: Noise survey notes and results**

Time	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>A10</sub>	L <sub>A90</sub>	L <sub>Amin</sub>	Notes
13:14	47	59	50	43	40	Children's playground audible? Distant sirens Distant aircraft
13:23	48	61	51	43	38	Vacuum audible inside adjacent residence
13:39	47	71	49	42	39	15min measurement
13:55	50	68	50	43	40	More sirens in this period
14:10	49	71	41	44	51	Road noise dominates

## **APPENDIX B**

### **INDICATIVE PLANT LOCATION**

Figure B1: Proposed Unit Position

