

**Proposed Residential  
Development**

**Heath Park,  
North End Way, London, NW3**

**Planning and Noise Assessment**

**December 2007**

**Author:** Phil Huffer B.Sc. (Hons) MIOA  
Principal Consultant

**APL Doc Ref:** 101198b.ph.12.07.Issue3



## 1. INTRODUCTION

- 1.1 Acoustics Plus Ltd (APL) is an independent firm of multi-disciplinary acoustic engineers. APL is engaged by both private and public sector clients.
- 1.2 APL has been instructed by the Applicant, Heath House Property Partnership, to consider and advise upon the noise implications of its proposal to develop Heath Park, North End Way, London, NW3.
- 1.3 It is understood that the Local Planning Authority (LPA) require more information, specifically in regard of noise, to draw up a number of planning conditions to be attached to planning consent. It is further understood that the noise matters are in connection with the proposed buildings proximity to the junction of Spaniards Road and North End Way.
- 1.4 This report provides the response to the LPA, on behalf of the Applicant.

## 2. BASELINE SITUATION

- 2.1 The Application Site (the "site") is located on the north east corner of the junction of North End Way (A502) and Spaniards Road (B519). It is bordered to the east by Spaniards Road and to the west by North End Way. The site and its location can be seen in Figures 1 to 5. The A502 is considered the central spine through NW3 and together with Finchley Road (A41) provides the main thoroughfare through Hampstead. The A502 provides access to Swiss Cottage and onwards to Central London to the south whilst to the north provides access to Golders Green and onwards to the North Circular Road (A406). Spaniards Road to the east provides access to the nearby Highgate.
- 2.2 Heath Park will be located on the grounds of Heath House and will comprise detached residential accommodation.
- 2.3 It is understood that the proposal is to demolish the garden house located in the gardens at the rear of Heath House and erect a new residential building.
- 2.4 It is further understood that the LPA require further information on noise levels at the façade of the proposed development as implemented by the LPA Replacement Unitary Development Plan (UDP) Section 1 – Sustainable Development. The UDP (Policy SD7B) states: *"Unless appropriate attenuation measures are available and are included, the Council will not grant planning permission for: a) development likely to generate noise/vibration pollution; or b) development sensitive to noise/vibration in locations with noise/vibration pollution. In assessing applications against these criteria, the Council will have regard to the levels set out in Appendix 1 to this Plan"*.

### 3. NOISE OUTLINE

- 3.1 In order to determine the façade noise levels, consideration must be given to the noise levels on the site from the presence of road noise from the nearby A502 and Spaniards Road.
- 3.2 Measurements were obtained 1m from the front façade of the existing garden house building at ground floor level. The location was chosen to represent façade noise levels that would be experienced at the façade of the proposed building. Measurements were obtained over a twenty-four hour period.
- 3.3 Prior to obtaining measurements, consideration was given to the LPAs Unitary Development Policy (UDP). This guidance takes on board elements of National Planning Policy Guidance on Noise (PPG24 “Noise” –1994).
- 3.4 The LPA UDP advice states the following: *“There are three time periods in the standard, rather than the two time periods in PPG24, because of the considerable density of the rail and road network and the wide range of tourism and entertainment facilities in the Borough. These factors combine to make the area particularly susceptible to road and rail noise during the evening period, when local residents are entitled to expect reasonable peace and quiet in their own homes.”*
- 3.5 The particulars of the measurement exercise are recorded below:
- |             |   |
|-------------|---|
| Date:       | 28 <sup>th</sup> – 29 <sup>th</sup> November 2007   |
| Start Time: | 16:20 hrs   |
| Location:   | Front façade of Garden house, garden of Heath House |
- 3.6 The measurements carried out during the exercise are recorded below.
- $L_{Aeq, 60mins}$  (dB re 20µPa)  
- average equivalent sound pressure level
- 3.7 The measurements obtained during the exercise are presented in Appendix A.

### 4. EQUIPMENT

- 4.1 All measurements were obtained using the following equipment:
- Rion NL-32 Sound Level Analyser Class 1  
Serial No. 00840861
  - Rion Calibrator Type NC-74 Class 1  
Serial No. 00410215
- 4.2 The relevant equipment carries full and current traceable calibration.
- 4.3 The equipment, where necessary, was calibrated prior to and after the measurements were carried out.

## 5. NOISE ASSESSMENT

5.1 Given the 24 hour monitoring position and measurements obtained, it is possible to calculate  $L_{Aeq, T}$  values in general accordance with the UDP requirements. This document makes specific reference to the following time periods:

- (a) 07:00 hrs to 19:00 hrs
- (b) 19:00 hrs to 23:00 hrs
- (c) 23:00 hrs to 07:00 hrs

5.2 In accordance with UDP advice, façade measurements were corrected as follows:

*“Unless otherwise stated, all noise levels are taken to be measured and/or predicted one metre from noise sensitive façades. Façade levels are assumed to be 3dB(A) higher than the “free field” levels obtained when noise levels are measured away from buildings. Free field values should be corrected by the addition of 3dB to derive approximate façade values.”*

5.3 In accordance with these time periods, the data collected during the measurement exercise was averaged on an energy basis.

Location	$L_{Aeq}$ (07:00 – 19:00 hrs)	$L_{Aeq}$ (19:00 – 23:00 hrs)	$L_{Aeq}$ (23:00 – 07:00 hrs)
Existing façade	57	56	52

Table 1

5.4 A summary of the requirements of the LPA’s UDP on noise can be found in Tables 2 and 3 below.

Noise description and location of measurement	Period	Time	Sites adjoining roads
Noise at 1metre external to a sensitive façade	Day	0700 – 1900	72dB $L_{Aeq, 12h}$
Noise at 1metre external to a sensitive façade	Evening	1900 – 2300	72dB $L_{Aeq, 4h}$
Noise at 1metre external to a sensitive façade	Night	2300 – 0700	66dB $L_{Aeq, 8h}$

Table 2 – Noise levels on residential sites adjoining roads at which planning permission will **NOT** be granted

Noise description and location of measurement	Period	Time	Sites adjoining roads
Noise at 1metre external to a sensitive façade	Day	0700 – 1900	62dB $L_{Aeq, 12h}$
Noise at 1metre external to a sensitive façade	Evening	1900 – 2300	57dB $L_{Aeq, 4h}$
Noise at 1metre external to a sensitive façade	Night	2300 – 0700	52dB $L_{Aeq, 8h}$

Table 3 – Noise levels on residential sites adjoining roads at and above which attenuation measures will be required

- 5.5 From the foregoing assessment it is evident that the proposed ground floor façade will fall below the LPAs UDP requirements detailed in Table 2 and at the LPAs UDP requirements for night time noise levels in Table 3 above.
- 5.6 It is further understood that the proposed development will consist of a basement plant room. Given the site’s location with regard to adjacent potential noise sensitive properties, it is considered that plant noise emissions from the site will fall within the LPAs UDP requirements of 10dB below background noise. This will be due to the distance from the proposed location of the plant room to the nearest noise sensitive façade and the position of the plant room below ground level.

## 6. RECOMMENDATIONS

- 6.1 Given the foregoing, further recommendations to improve the fenestration may be required.
- 6.2 Typical industry guidance advises “Where noise mitigation is required design control measures should ensure that the noise criteria specified below is met (taken from BS 8233).”

Indoor ambient noise levels in spaces when they are unoccupied			
Criterion	Typical situations	Design Range $L_{Aeq, T}$ dB	
		Good	Reasonable
Reasonable resting/sleeping conditions	Living rooms	30	40
	Bedrooms	30	35
<i>Note 1: At BS 8233: 1999, at paragraph 7.6.1.2 it is stated – “.....As well as protection for the building, barriers or bunds should be considered to protect the gardens. In gardens and balconies etc., it is desirable that the steady noise level does not exceed 50 <math>L_{Aeq, T}</math> dB and 55 <math>L_{Aeq, T}</math> dB should be regarded as the upper limit”.</i>			

Table 4

- 6.3 To reduce noise exposure in the proposed dwelling, attention should be given to the sound insulation of the façade of the building. The windows, and any trickle ventilators, will normally be the weakest part of any façade. The proposed external wall construction is likely to have an insulation of around 50dB  $R_w$ . Given the external noise levels it is likely that a double glazed window system would provide the necessary sound insulation values to reduce the internal noise levels to an acceptable level. This will need to be combined with sound attenuated background ventilation.

## 7. CONCLUSION

- 7.1 It can be concluded that:

- (a) *The front façade of the proposed Heath Park accommodation falls below the LPA's UDP requirements as shown in Table 2.*
- (b) *The front façade of the proposed Heath Park accommodation falls at the LPA's UDP requirements for night time noise levels as shown in Table 3.*
- (c) *It is recommended that at detailed design stage acoustic fenestration measures are implemented to ensure the amenity of future occupiers of the building.*

**Figures**

**Figures – Heath Park, Heath Street, London, NW3**



Figure 1



Figure 2



Figure 3



Figure 4

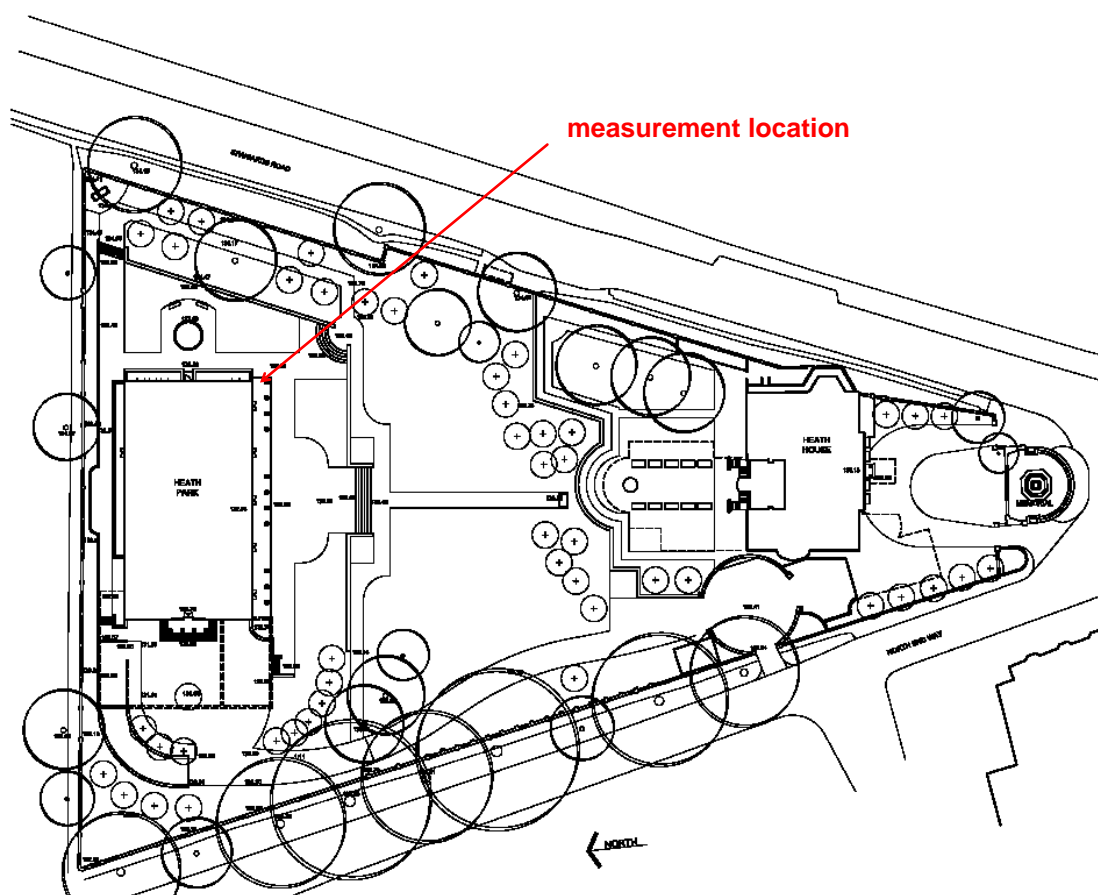


Figure 5



## **Appendix A**

## Background Noise Measurements obtained at Heath Park, London, NW3

Address	Time	Measurement Time	LAeq
1	28/11/2007 16:21	1:00:00	61
2	28/11/2007 17:21	1:00:00	59
3	28/11/2007 18:21	1:00:00	61
4	28/11/2007 19:21	1:00:00	60
5	28/11/2007 20:21	1:00:00	59
6	28/11/2007 21:21	1:00:00	58
7	28/11/2007 22:21	1:00:00	58
8	28/11/2007 23:21	1:00:00	57
9	29/11/2007 00:21	1:00:00	54
10	29/11/2007 01:21	1:00:00	52
11	29/11/2007 02:21	1:00:00	52
12	29/11/2007 03:21	1:00:00	50
13	29/11/2007 04:21	1:00:00	52
14	29/11/2007 05:21	1:00:00	55
15	29/11/2007 06:21	1:00:00	59
16	29/11/2007 07:21	1:00:00	61
17	29/11/2007 08:21	1:00:00	58
18	29/11/2007 09:21	1:00:00	59
19	29/11/2007 10:21	1:00:00	59
20	29/11/2007 11:21	1:00:00	59
21	29/11/2007 12:21	1:00:00	59
22	29/11/2007 13:21	1:00:00	59
23	29/11/2007 14:21	1:00:00	61
24	29/11/2007 15:21	1:00:00	59