

Technical Note

The Northern, West Didsbury, Manchester



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Date

03 November 2023

Document Reference

16764-TN-03 RevA

To

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Summary of Commissioning Exercise Undertaken for Padel Courts

1.0 PURPOSE AND SCOPE

Development works have recently been undertaken at The Northern Lawn Tennis Club premises at Palatine Road, West Didsbury, Manchester M20 3YA to form two covered padel courts for use by members.

A noise impact assessment was undertaken at design stage, to demonstrate predicted noise emission levels due to use of the courts in accordance with relevant criteria established in Sport England document 'Artificial Grass Pitches (AGP) Acoustics – Planning Implications'.

The Local Authority planning conditions require a schedule of commissioning measurements to be carried out, such that it can be demonstrated whether the targeted noise emission levels are being achieved.

This document provides a summary of the measurements undertaken and the resulting findings.

2.0 SUMMARY OF REQUIREMENTS

2.1 Adopted Design Targets at Design Stage

When providing a predictive noise impact assessment, noise emissions criteria were established as follows, in accordance with the stated requirements in the AGP Document:

"The determining noise criteria for AGPs proximity to residential properties, to avoid moderate annoyance in the daytime and evenings, as set by the World Health Organisation's 'Guidelines for Community Noise': 50 dB $L_{Aeq(1hour)}$ upper noise limit external to residential properties and within external living areas."



2.2 Commissioning Requirements

The relevant planning condition imposed by the Local Authority states the following with regards to a requirement for commissioning measurements:

“Prior to the courts hereby approved becoming operational, a post completion report will be required to validate that the development, as implemented, conforms to the recommendations and requirements in the approved Noise Impact Assessment. This report should include the results of post completion testing, which shall be undertaken to confirm whether the target noise level criteria set out in the Clement Acoustics Noise Impact Assessment have been met. The post-completion report shall be submitted to the City Council as Local Planning Authority for its approval.”

3.0 COMMISSIONING MEASUREMENTS

In order to allow for commissioning measurements to be undertaken, trial matches were arranged in the padel courts on 23 October 2023. The matches involved 8 players in total, with a doubles match played on each court.

It was noted that a solid timber screen has been installed along the boundary of the site and access road, in accordance with the recommendations of report 16764-NIA-02 RevD.

Access was arranged to external areas of No. 29 and No. 31 Elm Road, to allow measurements to be taken in the closest affected receivers.

3.1 Measurement Procedure

During the ongoing padel matches, measurements were taken in external receiver locations at 29 and 31 Elm Road. The measurement positions used are as follows:

- Position 1: No. 29 Garden, close to boundary with The Northern
- Position 2: No. 29 Decking, in front of façade at ground floor level
- Position 3: No. 31 Decking, in line with façade at first floor level

For all measurement positions, the microphone was mounted on a tripod approximately 1.5 m above the floor level.

The measurement positions are shown relative to the recently constructed padel court location, in Figure 3.1.



Figure 3.1 Plan view showing measurement locations (base image © Google Earth)

Measurements were undertaken of the continuous ambient noise level in single octave bands between 63 Hz and 8 kHz.

At the time of the attended measurements, the weather conditions were dry with minimal wind and were therefore considered suitable for the measurement of environmental noise.

3.2 Equipment

The equipment calibration was verified, by means of a field verification check, before and after use and no abnormalities were observed.

The equipment used was as follows.

- 1 No. 01dB Solo Black Class 1 Sound Level Meter
- Norsonic Type 1251 Class 1 Calibrator

4.0 RESULTS

Results are presented for each measurement position in the subsequent sections. For each position, the 1-second continuous ambient noise level is shown as a time history, with the determined overall ambient noise level $L_{Aeq,T}$ stated.

It is noted that the adopted criteria are in terms of a 1-hour ambient noise level. Short-term exceedance over 50 dB(A) are therefore acceptable, provided they do not result in the overall ambient noise level exceeding.

It should be noted that during the measurement period, there were apparent residual sounds including road traffic noise, occasional overhead air traffic noise and intermittent noise from use of existing tennis courts close to the measurement position. These have generally been considered part of the cumulative noise environment and included in the analyses, but where these became dominant and were not attributable to padel court noise, certain periods have been omitted as stated in each section.

4.1 Measurement Position 1

Measurement Position 1 is in the garden of 29 Elm Road, close to the boundary of The Northern. Line of sight to the padel courts was largely blocked by the combination of the installed solid barrier, and a hedge around the perimeter of the garden.

A 5-minute measurement was taken as displayed on the time history in Figure 4.1. An omitted period is highlighted on the chart, which was caused by an aircraft passing directly overhead.

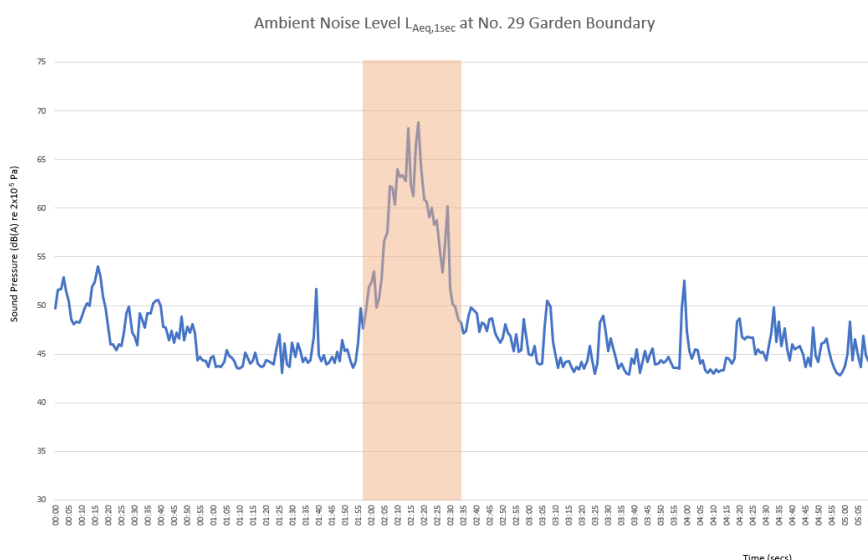


Figure 4.1 Time history of Position 1 measurement

The average ambient noise level for the measurement period, with the highlighted period omitted, was $L_{Aeq,T}$ **47 dB**, therefore demonstrating compliance with the requirements.

4.2 Measurement Position 2

Measurement Position 2 is on the decking of 29 Elm Road, in front of the building façade at ground floor level. The padel courts were partially visible over the top of the installed barrier.

A 2-minute measurement was taken as displayed on the time history in Figure 4.2. Two omitted periods are highlighted on the chart, which were caused by erroneous periods of shouting on the clay tennis court closest to the boundary.

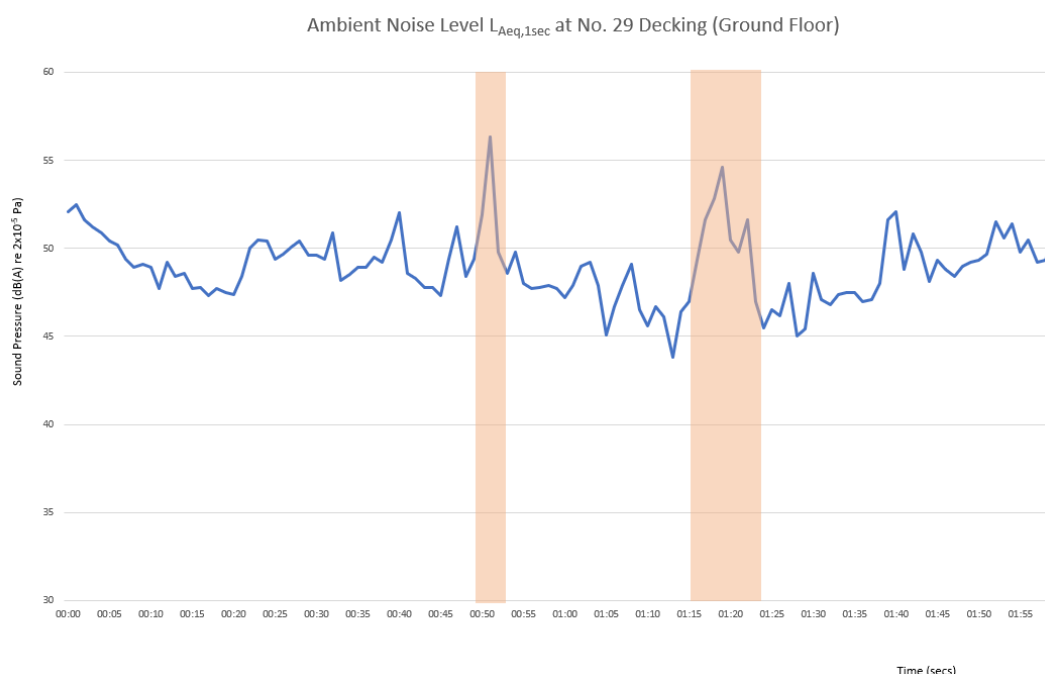


Figure 4.2 Time history of Position 2 measurement

The average ambient noise level for the measurement period, with the highlighted periods omitted, was $L_{Aeq,T}$ **49 dB**, therefore demonstrating compliance with the requirements.

4.3 Measurement Position 3

Measurement Position 3 is on the decking of 31 Elm Road, in line with the building façade at first floor level. The padel courts were clearly visible over the top of the installed barrier.

A 2-minute measurement was taken as displayed on the time history in Figure 4.3. Two omitted periods are highlighted on the chart, which were caused by cars passing on Elm Road, which Position 3 had line of sight to.

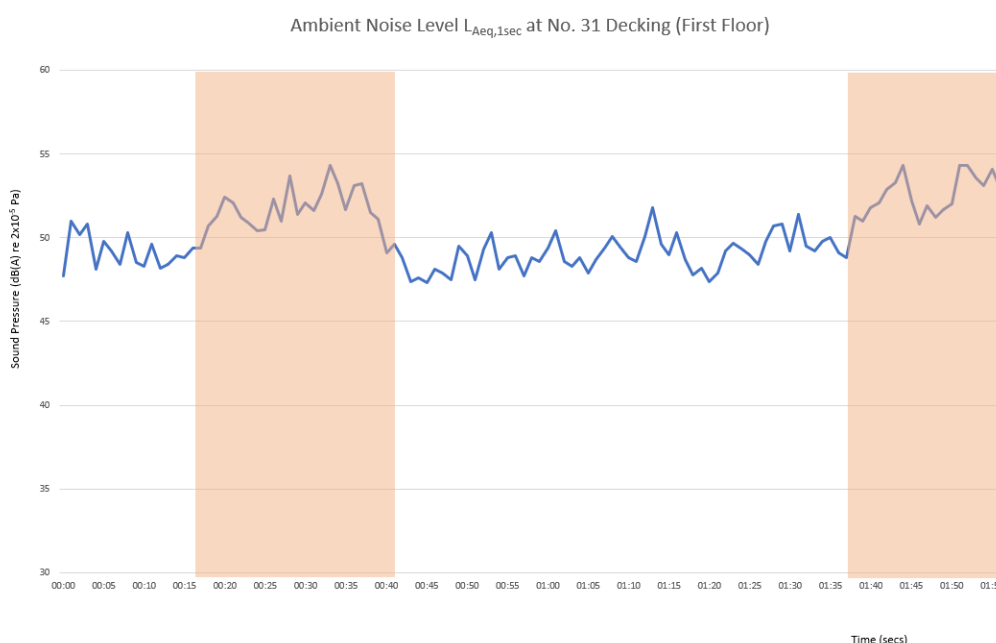


Figure 4.3 Time history of Position 3 measurement

The average ambient noise level for the measurement period, with the highlighted periods omitted, was **$L_{Aeq,T}$ 49 dB**, therefore demonstrating compliance with the requirements.

5.0 SUMMARY

Commissioning measurements have been undertaken for a recently installed padel court facility at The Northern, West Didsbury, Manchester.

Measurements undertaken during an arranged trial match in the courts demonstrate that the resulting noise levels in the closest affected receiver are within previously established design targets for noise emissions.