

fisher acoustics

Padel Courts, Deansgate, Manchester

Environmental Noise Study

April 2024

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1.0 SUMMARY

Fisher Acoustics Ltd has been commissioned by Deansgate SOF Alliance LeaseCo Limited, a joint venture between Property Alliance Group (PAG) and an affiliate of Starwood Capital (SCG), to conduct an environmental noise study relating to proposed temporary padel courts on Deansgate, Manchester.

An assessment of environmental noise has determined the pre-existing environmental noise levels during the day at noise sensitive receptors around the site.

An assessment of the likely noise level at the nearest dwellings to the site due to the operation of the proposed padel courts has been carried out.

The assessment shows that the level of noise generated by the use of the padel courts is expected to be such that residential amenity will be maintained.

2.0 INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Deansgate SOF Alliance LeaseCo Limited, a joint venture between Property Alliance Group (PAG) and an affiliate of Starwood Capital (SCG), to conduct an environmental noise study relating to a planning application for a proposed development of padel courts on Deansgate, Manchester. The proposals provide for two padel courts and a single storey administrative/storage building.

This report examines the pre-existing environmental noise conditions around the site and identifies the potential noise impacts associated with the proposals.

The steps undertaken in compiling this study are as follows:

- Assessment of daytime external noise survey data to determine the typical levels of noise at noise sensitive receptors around the site
- Calculation of the potential external noise levels at the nearest residential facades to the site due to use of the padel courts
- Comparison of the potential external noise levels due to use of the padel courts with published guidance relating to noise levels at the nearest residential facades

3.0 DESCRIPTION OF SITE

General Site Description

The proposed development site is currently cleared ground that was previously the location of Premier House. The site has planning approval for the construction of a 5-storey office building (planning reference 134640/FO/2022). The planning approval is yet to be implemented.

The site, which forms part of the wider Renaissance Hotel complex, is located at the junction of Deansgate and Blackfriars Street within Manchester's central business district. The wider site is bounded to the north by Victoria Bridge Street, Blackfriars Street to the south, to the east by Deansgate and to the west by the River Irwell.

The existing buildings around the site include a multi-storey residential building (No1 Deansgate), a hotel, retail outlets and offices.

As part of the wider Renaissance Hotel complex development, planning approval has been granted for a part ground and 26-storey, part ground and 13-storey residential building (planning reference 132088/FO/2021). Construction of the residential building has not yet commenced. The Treehouse Hotel, directly to the north of the proposed padel courts is due to open in 2024.

Figure 1 shows the overall Renaissance development site in the context of the surrounding roads and buildings. Figure 1 also identifies the footprint of the proposed padel courts.

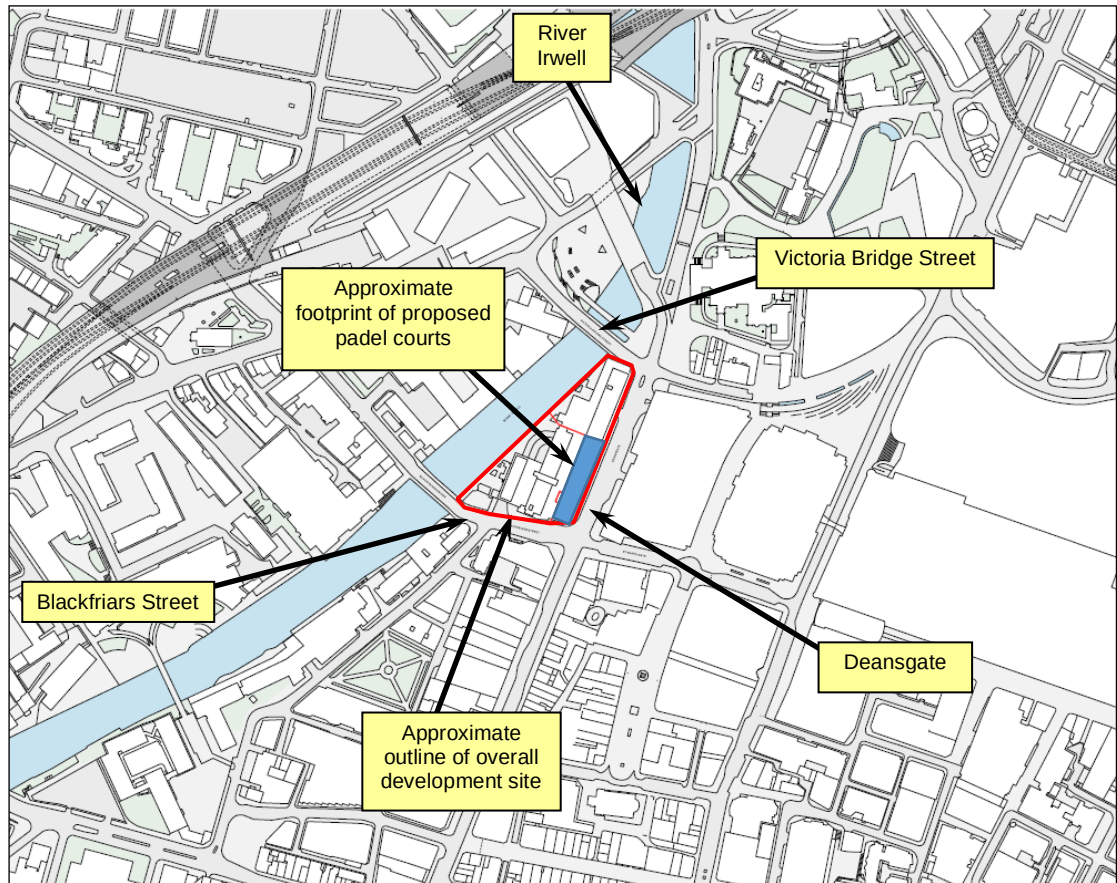


Figure 1: Site location plan

4.0 DESCRIPTION OF PROPOSED DEVELOPMENT

As described above, the proposed temporary padel court development site has extant planning approval for an office building. There is an aspiration for the site to be used for padel prior to the commencement of construction works on the site for the office building.

The formal description of development for the proposals is as follows:

- Temporary permission for three years for the erection of two padel tennis courts (class E) and a one-storey ancillary administrative/storage building (class Sui Generis), with associated lighting, landscaping and infrastructure.

The proposed operating times of the facility are as follows:

- Mon – Sun 0700 hrs – 2200 hrs

Figure 2 shows the proposed layout of the courts in relation to Deansgate and the closest buildings. The proposed administrative/storage building will be positioned between the two courts.

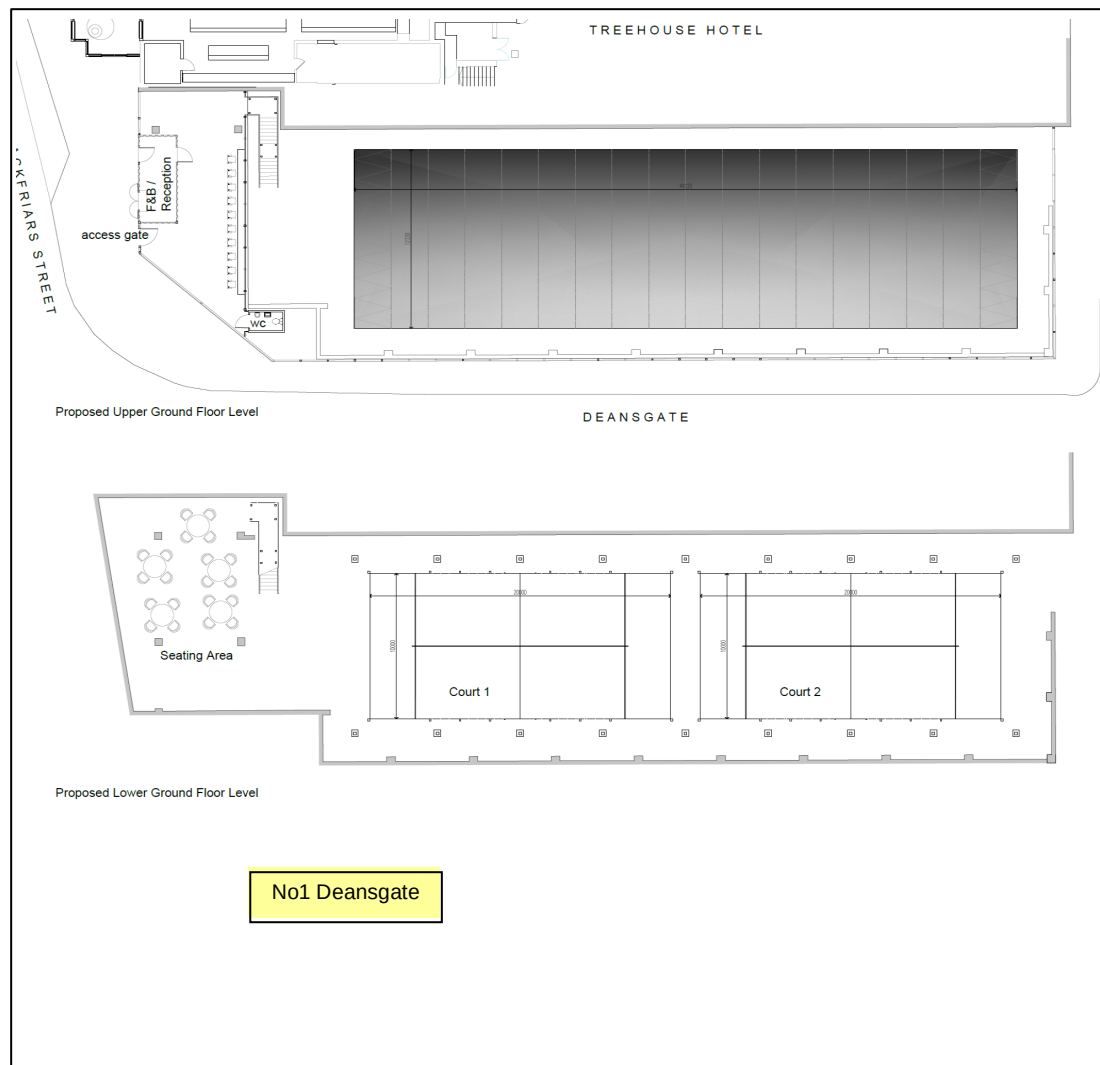


Figure 2: Site layout plan

The floor level of the padel courts will be approximately 0.5 metres lower than street level. In addition, solid timber hoarding of height 2.9 m above the level of the courts will surround the site. The approximate position of the hoarding is identified by the red line in Figure 2. The entrance to the courts will be located at the mid-point of the hoarding, as indicated by the arrow in Figure 2.

The padel courts are approximately 27 metres from the residential receptors at No1 Deansgate.

The padel courts will be protected from adverse weather by a framed canopy. The canopy will be provided with a translucent PVC roof and the upper half of the canopy 'walls' will be covered by a translucent fabric. Figure 3 shows an image of the canopy provided by the manufacturer.



Figure 3: Image of proposed canopy

5.0 RELEVANT GUIDANCE DOCUMENTS

NATIONAL PLANNING POLICY

The National Planning Policy Framework (NPPF), published in December 2023 by the Ministry of Housing, Communities and Local Government 'sets out the Government's planning policies for England and how these should be applied'.

Paragraph 96 of the NPPF states that: 'Planning policies and decisions should aim to achieve healthy, inclusive and safe places which:

'promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;'

and:

'enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.'

Paragraph 97 of the NPPF states that: 'To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should:

'plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments;

and:

'take into account and support the delivery of local strategies to improve health, social and cultural well-being for all sections of the community.'

Paragraph 102 of the NPPF states that

‘Access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities, and can deliver wider benefits for nature and support efforts to address climate change. Planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision. Information gained from the assessments should be used to determine what open space, sport and recreational provision is needed, which plans should then seek to accommodate.’

Paragraph 180 of the NPPF states that ‘Planning policies and decisions should contribute to enhance the natural and local environment by:

‘preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability’.

Paragraph 191 of the NPPF 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 impact 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; and
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”

Paragraph 191a of the NPPF cross references the ‘Explanatory Note to the Noise Policy Statement for England’. The ‘Noise Policy Statement for England’ (NPSE) was published by the Department for Environment Food and Rural Affairs in March 2010.

The NPSE does not give suggested external noise criteria for commercial developments. In the absence of specific criteria, reference shall be made in this document to established guidance and principles, as established in British Standards and the local Planning policy.

The NPSE applies to all types of noise apart from noise in the workplace (occupational noise). For the purposes of the NPSE, “noise” includes:

- “environmental noise” which includes noise from transportation sources;
- “neighbour noise” which includes noise from inside and outside people’s homes; and
- “neighbourhood noise” which includes noise arising from within the community such as industrial and entertainment premises, trade and business premises, construction sites and noise in the street

The NPPF and the NPSE do not specify noise criteria above which adverse effects would be expected. However, discussion is included within the NPSE relating to ‘significant adverse’ and ‘adverse’ effects which seek to guide the Planning process, as follows.

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

- NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

- LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

The NPSE then introduces the concept of a ‘significant observed adverse effect level’:

- SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

The NPSE states that 'it is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available'.

To assist in the formulation of appropriate noise criteria for individual situations, the NPSE sets out the three aims, as follows:

- 1) The first aim of the Noise Policy Statement for England:

Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

The first aim of the NPSE states that significant adverse effects on health and quality of life should be avoided while also taking into account the Government's guiding principles of sustainable development as defined in the NPSE.

- 2) The second aim of the Noise Policy Statement for England:

Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

The second aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the Government's guiding principles of sustainable development. This does not mean that such adverse effects cannot occur.

- 3) The third aim of the Noise Policy Statement for England

Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

This aim seeks, where possible, positively to improve health and quality of life through the pro-active management of noise while also taking into account the Government's guiding principles of sustainable development, recognising that there will be opportunities for such measures to be taken and that they will deliver potential benefits to society. The protection of quiet places and quiet times as well as the enhancement of the acoustic environment will assist with delivering this aim.

In the absence of specific criteria within the NPSE, reference shall be made in this document to established guidance and principles, as established in British Standards and the local planning policy.

National Planning Practice Guidance – Noise

'Planning Practice Guidance – Noise' is a web-based resource provided by the Ministry of Housing, Communities and Local Government (last revision date 22 July 2019) which gives guidance on planning considerations in relation to noise.

The document identifies the subjective grading of noise and the recommended actions and different effect levels as defined in the NPSE. Again, as 'Planning Practice Guidance – Noise' does not refer to objective criteria, reference shall be made in this document to established guidance and principles.

LOCAL PLANNING POLICY

Manchester City Council's Core Strategy was adopted on 11th July 2012 and is the key Development Plan Document in the Local Development Framework (LDF).

Section 13.6 'Development Management' of the Core Strategy states that 'all new developments should follow the 'Development Principles' and accord with the design guidance set out in the Supplementary Planning Documents.

'Policy DM 1, 'Development Management' of the Core Strategy states:

- All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document: Effects on

amenity, including noise, vibration.... This could also include proposals which would be sensitive to existing environmental conditions, such as noise.

'Planning & Noise, Technical Guidance', dated October 2022 has been issued by the Environmental Protection, Environmental Health and The Neighbourhoods Service sections of Manchester City Council. The document provides guidance to applicants and consultants concerning the assessment and prediction of environmental noise associated with a particular development. However, 'Planning & Noise, Technical Guidance' does not provide specific environmental noise guidance on sports facilities such as padel courts, but advises in Section 3.7.1.6 of the document ('Other potentially noisy activities') that:

'The following types of development proposals or applications may have additional specific guidance published to review noise impacts or may otherwise be a potential source of noise.

It is recommended that pre-application discussions are held with the Environmental Protection Team at www.manchester.gov.uk if any of the following application types are to be submitted:

- Motor car/bike tracks/speedways
- BMX, skateboard, scooter, mountain bike tracks
- MUGAs
- Sport stadia
- B2 Use Class developments
- Wind Turbines
- Gymnasias'

OTHER GUIDANCE DOCUMENTS

BS8233: 2014

BS8233: 2014 'Guidance on sound insulation and noise reduction for buildings' provides appropriate criteria for acceptable levels of noise ingress within dwellings. This British Standard provides guidance for the control of noise in and around buildings. It is applicable to the design of new or refurbished buildings, but also provides guidance in situations where a new noise-making development is to be introduced near an existing noise-sensitive development, such as housing.

World Health Organisation 'Guidelines for Community Noise (1999)

The internal noise criteria for dwellings within BS823: 2014 are taken from the World Health Organisation 'Guidelines for Community Noise (1999)'. In particular, the guideline noise values are set at the level of the lowest adverse health effect (the 'LOAEL' defined in the NPSE). The WHO document does not identify the noise level above which significant adverse effects could occur (the SOAEL).

Table 1 identifies the LOAEL guideline daytime values for noise affecting dwellings.

Location	Critical health effect(s)	Noise limit [dB]
Outdoor living area	Serious annoyance, daytime and evening	55 dB LAeq, 16h
	Moderate annoyance, daytime and evening	50 dB LAeq, 16h
Dwelling, indoors	Speech intelligibility and moderate annoyance, daytime and evening	35 dB LAeq, 16h

Table 1: WHO guideline values for Lowest Observed Adverse Effect Level, daytime

Sport England Design Guidance Note – Artificial Grass Pitch (AGP) Acoustics – Planning Implications, 2015

'Sport England Design Guidance Note – Artificial Grass Pitch (AGP) Acoustics – Planning Implications', 2015 proposes a noise criterion and assessment methods for AGPs. The noise criterion is based on the principles of the NPPF and NPSE and references the guidance values given in the World Health Organisation 'Guidelines for Community Noise' (1999) for internal noise levels within dwellings, on the basis that the windows to the dwellings are open.

For the typical use of AGPs (football, hockey and rugby), the most significant noise levels were found to be generally derived from the voices of players, with the exception of hockey where impact noises of balls hitting perimeter strike boards and goal back boards were more noticeable.

Section 3 'Relevant Noise Guidance' of the document states:

- *'Based on a 15 decibel sound reduction of a partially open window, the noise level outside a residential property during the daytime about 1 metre from façades of living spaces should not exceed 50 dB LAeq. The WHO document also provides guidance for outdoor living areas. It states that to avoid 'moderate annoyance' during the daytime and evening the noise level should not exceed 50 dB LAeq(T).'*

With reference to a review of the WHO noise criteria by the National Physical Laboratory, the AGP Design Guidance Note states that 'exceedance of the WHO guideline values does not necessarily imply significant noise impact and indeed, it may be that significant impacts do not occur until much higher levels of noise exposure are reached'. The AGP Design Guidance Note concludes that it is not necessarily the case that where a noise level of 50dB LAeq,1 hr is exceeded at a residential property due to sports use, a residential property will be will adversely affected.

Although padel is not mentioned in the guidance, the document is considered to be an appropriate reference given the noise sources of players' voices and ball impacts.

Guidelines for Environmental Noise Impact Assessment (2014)

The Guidelines for Environmental Noise Impact Assessment, published in 2014 by the Institute of Environmental Management & Assessment discusses the significance of a change in noise level due to a new noise source. In broad terms, the impact of a change in sound levels due to a new noise source in an area can be classified as identified in Table 2.

Sound level change	Impact Classification
≥ 0 dB and < 3 dB	Negligible
≥ 3 dB and < 5 dB	Minor
≥ 5 dB and < 10 dB	Moderate
≥ 10 dB	Major

Table 2: Impact from a change in sound levels

6.0 NOISE SENSITIVE RECEPTORS

Figure 4 identifies the nearest noise sensitive receptors to the proposed development site. It should be noted that Renaissance Tower is a planning-approved residential development that has not commenced construction at the time of writing. It is not expected that the building would be constructed and occupied prior to the cessation of the proposed padel court use. The buildings that are not identified as 'noise sensitive receptors' in Figure 4 would either not be occupied by the time that the padel courts cease operation or are at a much greater distance from the proposed padel courts than the identified receptors. Thus, if satisfactory conditions are expected at the assessed receptors, then satisfactory conditions can also be expected at any other buildings in the vicinity of the proposed padel courts.

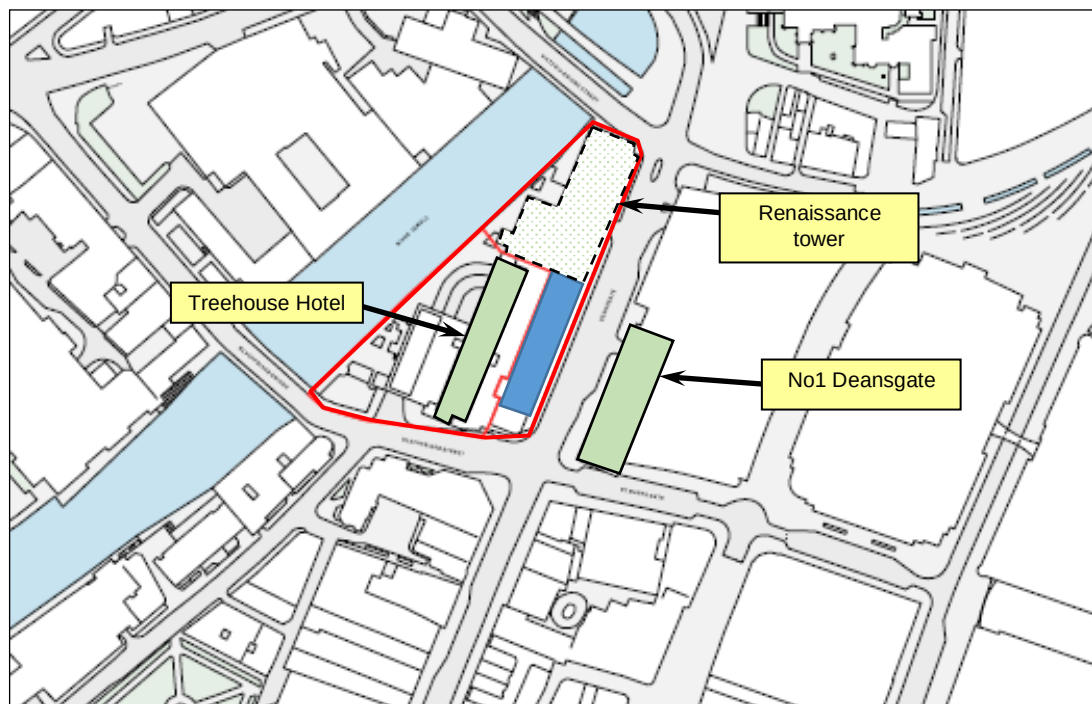


Figure 4: Noise sensitive receptors close to proposed development site

The guestrooms of the Treehouse Hotel do not require opening windows for ventilation and cooling as they are to be mechanically ventilated and cooled. It is not therefore considered appropriate to apply the noise criterion of the Sport England Design Guidance Note to the hotel, as the criterion assumes windows are opened. However, for the purposes of this assessment, compliance with the noise criterion will be assessed.

7.0 ENVIRONMENTAL NOISE SURVEYS

Proposed development site

In order to determine the prevailing ambient noise levels at the nearest receptors to the proposed development site, a survey of the existing noise environment was carried out on Thursday 11 April 2024. The noise survey was conducted in accordance with BS7445-1:2003 ‘Description and measurement of environmental noise – Part 1: Guide to quantities and procedures’.

The measurement location used for the survey is identified on Figure 5 and is representative of the position of the nearest existing residential properties at No1 Deansgate. The measured noise levels can therefore be used to determine acceptable levels of noise at the existing sensitive properties due to noise from the development.

The measurement locations were as follows:

- Location 1: 1m from the ground floor façade of No1 Deansgate, at a microphone height of 1.5 metres above ground level

Full survey details are given in Appendix A. Appendix A also contains a summary of the results obtained from the surveys. The long-term noise environment at and around the Site is principally determined by road traffic on Deansgate, with a contribution to noise levels from road traffic on Blackfriars Street.

The noise levels measured during the noise surveys are summarised in Table 3.

Measurement Location	Measured Noise Level (at façade)		
	dB, LAeq	dB, LAmx	dB, LA90
1	62	68 to 80	55

Table 3: Summary of measured daytime environmental noise levels

The quoted average (LAeq) noise level in Table 3 is the average noise level measured over the full measurement period at the measurement position. The quoted LA90 noise level is the typical background noise level measured over the full measurement period. The LAmx noise levels given are the range of noise levels measured over the sample periods.

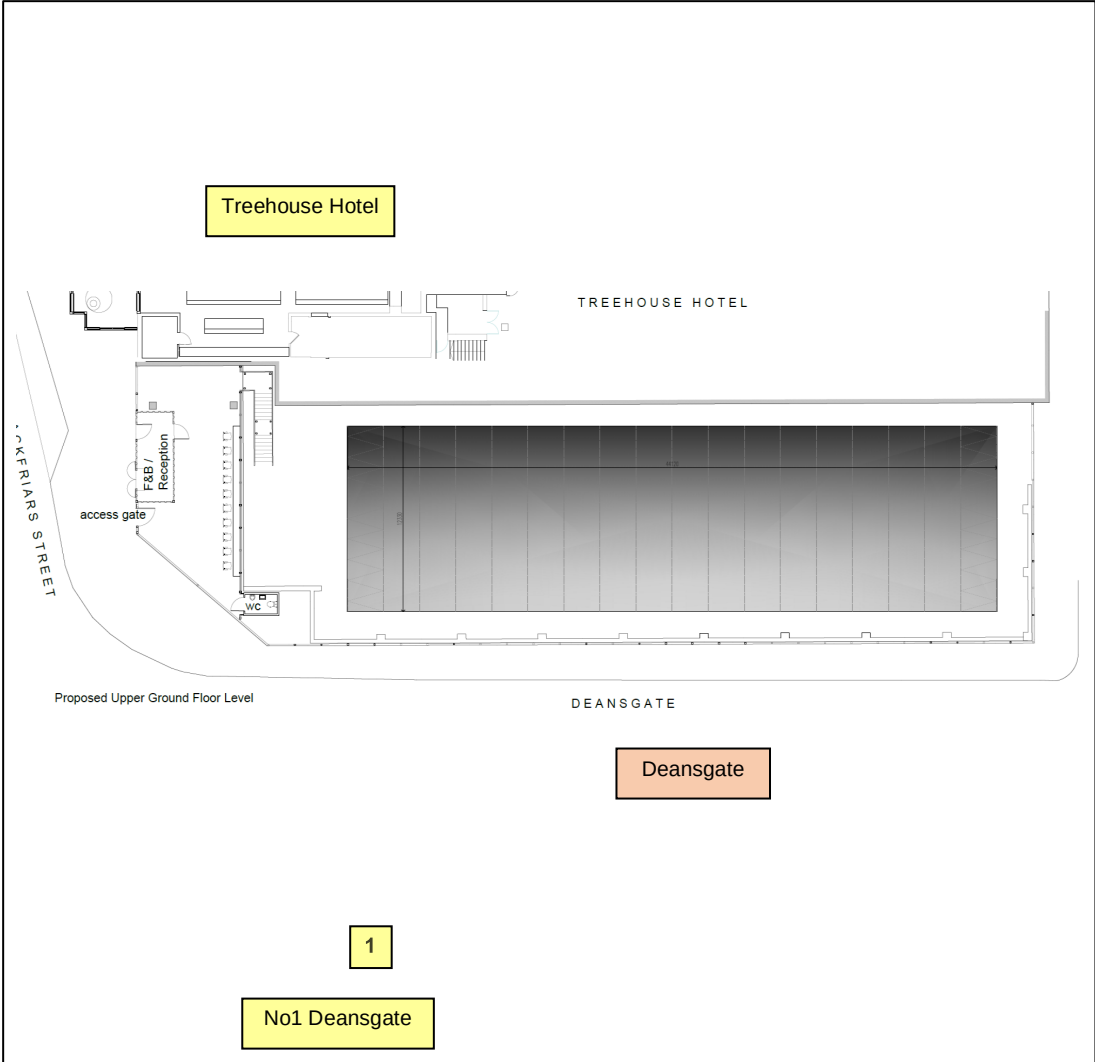


Figure 5: Noise survey measurement location

Noise surveys at existing padel courts

A previous noise survey conducted by Fisher Acoustics at an existing commercial padel court operation has determined typical noise levels due to the use of padel courts.

The principal noise source from the padel courts in question was the impact of the padel ball on the bats. In addition, during the first male doubles game, the raised voices of the players contributed significantly to the measured noise levels. Occasional impacts of the padel ball on the glazed perimeter screens around the courts can be heard, but these impacts were not considered to be a significant contributor to the measured noise levels. The measured specific noise levels due to use of the padel courts are identified in Table 4.

Location/ Source	Measured Noise Level
	dB, LAeq
15 m from glazed ends of courts	51
8.5 m from open sides of closest court Female doubles (young adults) on closest court	55
8.5 m from open sides of closest court Male doubles (young adults) on closest court, with shouting	59
8.5 m from open sides of closest court Male doubles (older adults) on closest court, without shouting	52

Table 4: Calculated specific noise levels from padel courts

Measurements by others (reference 'Solihull Arden Club; Environmental Noise Assessment of Proposed Padel Courts, dated 20 March 2019, Solihull Metropolitan Borough Council planning reference 'PL/2019/01566/PPFL') have determined the typical levels of noise at increasing distance from the open sides of padel courts. Table 5 identifies the measured noise levels.

Distance from court	Measured Noise Level LAeq, 1hr
5 m	60 dB
10 m	56 dB
20 m	51 dB
30 m	49 dB
40 m	46 dB

Table 5: Calculated specific noise levels from padel courts

It can be seen that beyond the 'near field' of the padel courts (ie beyond approximately 5m – 10m from the side line of the courts), noise from the padel courts reduces by a minimum of 5dB per doubling of distance. The measured noise levels from 30 metres to 40 metres reduces by approximately 6dB per doubling of distance.

8.0 EXTERNAL NOISE LEVELS DUE TO PROPOSED PADEL COURT DEVELOPMENT

Calculations have been carried out to determine the potential noise level at the closest residential receptors due to the use of the padel courts. The calculations include the acoustic screening benefit that will be provided by the solid hoarding around the courts. The top of the hoarding sits 2.9 metres above the floor level of the courts. As such, padel ball impacts at the nearest edge of the courts to No1 Deansgate will be in the acoustic shadow of the hoarding for all receptors at No1 Deansgate at or below a height of approximately 21 metres. Padel ball impacts at or beyond the longitudinal centre line of the courts will not be in the acoustic shadow of the hoarding for all receptors at No1 Deansgate. The lowest level of apartments at No1 Deansgate are located approximately 15 metre above street level.

The Treehouse Hotel would be screened from the padel courts by the large solid wall that runs along the back of the site, parallel with Deansgate. This wall is approximately 11 metres tall. As such, padel ball impacts at the nearest edge of the courts to the hotel will be in the acoustic shadow of the wall for all receptors at the hotel that are at or below a height of approximately 30 metres. Padel ball impacts close to the longitudinal centre line of the courts will be in the acoustic shadow of the wall for all receptors at the hotel that are at or below a height of approximately 20 metres.

Padel ball impacts at the far side of the courts from the hotel will be in the acoustic shadow of the wall for all receptors at the hotel that are at or below a height of approximately 17 metres.

Table 6 identifies the calculated noise level at the receptors identified in Figure 2 above (No1 Deansgate and the Treehouse Hotel) due to the proposed padel courts.

The calculated noise levels assume that the two courts are in use simultaneously. The calculated noise levels due to different types of users are shown. The calculations also assume that reflections from the solid wall to the rear of the courts contribute to the noise levels at No1 Deansgate. The sound level of the reflections towards No1 Deansgate will be attenuated by approximately 3dB(A) by the PVC roof of the padel court canopy.

Receptor	Source	Calculated Noise Level at receptor LAeq,1hr
No1 Deansgate	Two padel courts, hosting male doubles matches (young male adults including shouting)	51.4 dB
	Two padel courts, hosting female doubles matches (young female adults)	48.4 dB
	Two padel courts, hosting male doubles matches (older male adults)	46.4 dB
Treehouse Hotel	Two padel courts, hosting male doubles matches (young male adults including shouting)	49.4 dB
	Two padel courts, hosting female doubles matches (young female adults)	46.4 dB
	Two padel courts, hosting male doubles matches (older male adults)	44.4 dB

Table 6: Calculated noise level at closest receptors due to padel courts

Table 7 identifies the potential change in noise level at the noise sensitive receptors due to the operation of the proposed padel courts

Location	Pre-existing noise level LAeq,1hr	Predicted noise level due to padel courts dB, LAeq,1hr	Resultant total noise level dB, LAeq,1hr	Change in noise level dB
No 1 Deansgate	59.2 dB	51.4 dB	59.9 dB	+ 0.7 dB
Treehouse Hotel	58.0 dB	49.4 dB	58.6 dB	+ 0.6 dB

Table 7: Calculated change in noise level at closest receptors due to padel courts

It can be seen that the calculated worst-case noise level exceeds the guideline noise limit of 50dB LAeq identified in the Sport England Design Guidance Note for artificial grass pitches. However, the calculated exceedance is only 1.4 dB. Such a difference is not considered to be significant, as a change in noise level of 3dB(A) is typically accepted to be the smallest change in noise level that can be perceived by listeners 'in the field'. In addition, the calculated excess of 1.4 dB assumes that both courts would be in use simultaneously by the noisiest users (young male adults, including shouting). Typically, noise levels at the residential receptors may be lower than the guideline value of Sport England.

In addition, the predicted noise levels at the nearest residential receptors are substantially lower than the pre-existing noise levels. As such the potential increase in noise levels at No1 Deansgate is only 0.7 dB. The Guidelines for Environmental Noise Impact Assessment would rate this change in noise level as negligible.

9.0 CONCLUSION

The worst-case potential noise level at the closest noise sensitive receptors due to the proposed padel courts exceeds the guideline value of Sport England Design Guidance Note for similar sports activities on artificial grass pitches. However, the calculated exceedance is only 1.4 dB. Such an excess is not considered to be significant, as it is not perceptible to listeners 'in the field'. In addition, the calculated excess of 1.4dB assumes that both courts would be in use simultaneously by the noisiest users (young male adults, including shouting). Typically, noise levels at the residential receptors may be lower than the guideline value of Sport England.

In addition, the predicted noise levels at the nearest residential receptors due to use of the padel courts are substantially lower than the pre-existing noise levels at the receptors. As such the potential increase in noise levels at No1 Deansgate is only 0.7 dB. The Guidelines for Environmental Noise Impact Assessment would rate this change in noise level as negligible.

It is therefore considered that residential amenity would be maintained at the residential receptors in the area given the expected levels of noise propagation from the proposed padel courts.

APPENDIX A: NOISE SURVEY DETAILS AND SUMMARY RESULTS

LOCATION

Deansgate, Manchester

DATES AND TIMES

3:55 pm to 4.55 pm, Thursday 11 April 2024

WEATHER DURING SURVEY

8/8 cloud, 5m/s breeze (S), no rain, 18°C

PERSONNEL PRESENT DURING SURVEY

Matt Fisher – Fisher Acoustics

INSTRUMENTATION

Norsonic Type 140 IEC 60651 Type 1 Integrating-Averaging Sound Level Meter (serial no. 1403193)

Norsonic Type 1251 IEC 60942-1997 Class 1 Sound Calibrator (serial no. 27878)

MEASUREMENT METHODOLOGY

Before and after the noise survey the sound level meter was checked calibrated to an accuracy of $\pm 0.3\text{dB}$ using the Norsonic Type 1251 Calibrator - no drift in sensitivity was detected. The measurement microphone was installed at the location identified in this report.

Table A1 identifies the measured noise levels. The measurement location is shown in Figure 5 and described below.

- Location 1: 1m from the ground floor façade of No1 Deansgate, at a microphone height of 1.5 metres above ground level



Measurement Position	Start Time	Measured Noise Levels, dB			Noise sources
		LAeq	LAmx	LA90	
1	15:54	65.5	77.0	56.6	Road Traffic (Deansgate)
1	15:59	62.1	76.3	56.1	"
1	16:04	64.5	76.2	55.6	"
1	16:09	59.1	70.1	52.8	"
1	16:14	61.3	73.0	54.5	"
1	16:19	60.7	73.1	54.7	"
1	16:24	61.2	75.0	53.3	"
1	16:29	60.3	73.2	53.5	"
1	16:34	63.2	79.9	55.3	"
2	16:39	63.8	77.0	57.5	"
2	16:44	60.5	74.3	52.2	"
2	16:49	59.1	67.6	54.1	"

Table A1: Summary Statistical Noise Levels (measured at façade), daytime, 11 April 2024

