



## PureGym - Winnersh, Reading

### Acoustic Planning Report

Reference: 15174.RP02.APR.2

Prepared: 10 March 2026

Revision Number: 2

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PureGym

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| Revision | Comment                                                     | Date          | Prepared By   | Approved By        |
|----------|-------------------------------------------------------------|---------------|---------------|--------------------|
| 0        | First issue of report                                       | 9 March 2026  | Aaron Moroney | Martin Raisborough |
| 1        | Option with further reduced limiting noise level for studio | 10 March 2026 | Aaron Moroney | Martin Raisborough |
| 2        | Minor wording amendments                                    | 10 March 2026 | Aaron Moroney | Martin Raisborough |
|          |                                                             |               |               |                    |

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The recommendations within this report relate to acoustics performance only and will need to be integrated within the overall design by the lead designer to incorporate all other design disciplines such as fire, structural integrity, setting-out, etc. Similarly, any sketches appended to this report illustrate acoustic principles only and again will need to be developed into full working drawings by the lead designer to incorporate all other design disciplines.



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## 1.0 EXECUTIVE SUMMARY

RBA Acoustics has been appointed by PureGym to undertake an acoustic feasibility study for a potential new facility at 6 King Street Lane, Wokingham, Winnersh. The site is located in an area consisting of a mixture of residential and commercial properties, just south of the A329.

This report presents the details and outcomes of a number of acoustic investigations undertaken by RBA Acoustics, the purpose of which are to provide guidance to PureGym with respect to the feasibility of accommodating a Gym within the proposed unit from an acoustics perspective. The acoustics issues that require consideration and assessed in this report are:

- Airborne noise breakout from the building and impacting on the nearby noise sensitive properties
- Plant noise emissions impacting on the nearby noise sensitive premises.

Based on the results of sound insulation testing of the proposed Gym unit, an assessment of likely noise breakout from Gym activities has been undertaken. Noise associated with Functional and Studio class activities is expected to be above the otherwise prevailing ambient sound level at the façade of the nearest affected noise sensitive properties. As such, acoustic treatment should be applied to control noise breakout.

For areas of the building, no treatment is necessary to mitigate noise from the Functional class activities and thus, a recommended location has been provided.

Regardless of location within the unit, mitigation measures are required to control noise breakout from Studio class areas. It is understood that fully enclosed Studio class spaces are not desirable. It would be possible to implement other sound insulation measures and apply a noise limiter to the electroacoustic systems of the Studio Class areas, equating to an overall noise limit within the Studio class space of 86 dBA if located in an acoustically ideal location within the unit (i.e., the north-east corner). Alternatively, providing the Studio class space can be located in the northeast corner, it would be feasible for the class to operate at 80 dBA without any physical mitigation measures required. The recommended location for the Studio class area, along with mitigation measures is provided in Section 6.0 of this report.

An environmental noise survey has been undertaken on site, the purpose of which was to benchmark currently prevailing background sound levels to use as a basis for assessing the impact of noise from future proposed items of building services plant on the nearby existing noise sensitive properties.

At the time of writing, details regarding the specific plant items, their proposed locations, noise levels and operating hours required for mechanically servicing the property are not available, as plant details are yet to be confirmed. The assessment is therefore based on PureGym's typical medium to large box design (i.e., 9No. Condensing Units). Our calculations indicate that attenuation would be required to condenser units. Condenser units should be sited within a lidded enclosure that achieves the performance outlined in Section 8.7 of this report.

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## 2.0 INTRODUCTION

RBA Acoustics has been appointed by PureGym to undertake an acoustic feasibility study for a potential new facility at 6 King Street Lane, Wokingham, Winnersh. The site is located in an area consisting of a mixture of residential and commercial properties, just south of the A329.

This report presents the details and outcomes of a number of acoustic investigations undertaken by RBA Acoustics, the purpose of which are to provide guidance to PureGym with respect to the feasibility of accommodating a Gym within the proposed unit from an acoustics perspective. The acoustics issues that require consideration and assessed in this report are:

- Airborne noise breakout from the building and impacting on the nearby noise sensitive properties
- Plant noise emissions impacting on the nearby noise sensitive premises.

This report presents the details and results of the environmental noise survey, which was undertaken between Monday 9<sup>th</sup> and Tuesday 10<sup>th</sup> February 2026, the purpose of which was to benchmark currently prevailing background sound levels to use as a basis for assessing the impact of noise from future proposed items of building services plant on the nearby existing noise sensitive properties.

This report occasionally employs technical acoustic terminology. In order to assist the reader, a brief description of the acoustic parameters used in this report is included within Appendix A.

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## 3.0 SITE DESCRIPTION

The proposed PureGym unit is currently unoccupied and is a fully detached unit, with the unit previously being tenanted by Magnet Ltd, a kitchen design store/supplier. The main customer car park is located to the southeast of the unit, with a small external back of house area to the west of the unit. It is anticipated that future items of building services plant are likely to be installed in this external area to the west of the unit.

There are a number of residential dwellings in close proximity the unit, along Rainbow Park to the west and south of the site and King Street Lane and Reading Road to the north and east of the site. The nearest of these residential receptors are approximately 10 metres from the site, when measured from the façade of the unit to the property window.

A site plan indicating the location of the building, and the location of the nearest noise sensitive property is highlighted in the site plan in Appendix B.

## 4.0 GYM ACTIVITY NOISE & BREAKOUT CRITERIA

### 4.1 Activity Noise Levels

Table 1 below presents the results of typical activity noise within a PureGym unit, based on measurements undertaken by RBA Acoustics at a number of PureGym facilities across the country.

Table 1 – Typical PureGym Activity Noise Levels

| Space                         | Measured Sound Pressure Level (dB re 20x10 <sup>-6</sup> Pa.)<br>@ Octave Band Centre Frequency (Hz) |     |     |     |    |    |    |    | dBA |
|-------------------------------|------------------------------------------------------------------------------------------------------|-----|-----|-----|----|----|----|----|-----|
|                               | 63                                                                                                   | 125 | 250 | 500 | 1k | 2k | 4k | 8k |     |
| Studio - Group Class          | 85                                                                                                   | 85  | 84  | 88  | 85 | 80 | 73 | 70 | 90  |
| Functional Area - Group Class | 68                                                                                                   | 74  | 71  | 74  | 74 | 68 | 65 | 62 | 77  |
| Main Gym Floor (Daytime)      | 68                                                                                                   | 67  | 67  | 68  | 66 | 63 | 61 | 57 | 71  |
| Main Gym Floor (Night)        | 62                                                                                                   | 65  | 64  | 62  | 60 | 58 | 56 | 51 | 66  |

The above data will be used in subsequent analysis to predict likely levels of noise transfer to adjacent units and to determine the need and extent of any mitigation measures required to comply with the guideline criteria in the following sub section.

### 4.2 Noise Breakout to Nearby Noise Sensitive Properties

In order that noise breakout from the unit due to amplified music and speech during formal class activities does not adversely impact on the nearest affected noise sensitive property, it is recommended that the  $L_{eq}$  noise level of the breakout sound does not exceed a level 5dB below the otherwise ambient  $L_{eq}$  sound in any 1/3 octave band at the façade of the nearest affected noise sensitive property.

In addition to the above, there may be a planning requirement from the Local Authority in relation to the control of noise breakout from the unit. RBA Acoustics should be informed if any planning requirement exists and differs from the above, so we may update our recommendations as appropriate.

## 5.0 AIRBORNE SOUND BREAKOUT TO THE ENVIRONMENT

A number of residential dwellings are located in relatively close proximity to the unit, i.e.:

- Immediately west of the unit at 47-57 Rainbow Park
- South-west and south of the unit at 59-69 Rainbow Park, (screened by Fencing Products Limited).
- North and north-east of the unit at 400-416 Reading Road
- East of the unit at 2 King Street Lane

As such, there is the potential for noise breakout due to activities within the PureGym demise to adversely impact on these dwellings. Details of the assessments of noise impact on these noise sensitive receptors is presented in the following sections.

### 5.1 Details of Tests and Assessment

Airborne sound insulation testing of the external façade area of the building at ground floor was undertaken to determine the sound insulation performance of the external walls and other external elements. Based on this testing, assessments may be undertaken to determine the impact of Gym activity sound breaking out of the building and impacting on the amenity of the nearby noise sensitive properties to the Gym.

A mark-up of the test locations is provided in Figures B and C in Appendix B.

The equipment used to undertake the tests is presented in Appendix C. The equipment was calibrated before and after the tests using the field calibrators. No drift in calibration was observed.

The sound level meter and field calibrator have been laboratory calibrated within the past 2 years, while the field calibrator has undergone an additional in-house calibrator check within the past year. Calibration certificates for all equipment are available on request.

Airborne sound insulation testing of the external façade of the Gym was undertaken in general accordance with BS EN ISO 16283-1:2014+A1:2017 "*Acoustics. Field measurement of sound insulation in buildings and of building elements. Airborne sound insulation*" and the results have been rated in accordance with BS EN ISO 717-1:2013 "*Acoustics. Rating of sound insulation in buildings and of building elements*" in order to determine the single figure  $D_w$  performance.

From the results of the sound insulation tests, an assessment of likely noise levels affecting the residential dwellings close to the Gym due to activity noise within the PureGym demise may be undertaken. This assessment has considered the typical activity noise levels within the PureGym unit, as presented in Table 1 of this report.

The latest formal class activities that take place within a typical PureGym are from 20:30 to 21:30 hours. These classes generate higher levels of airborne sound due to amplified music and raised voices from instructors compared with general use of the gym. Considering this, and based on the ambient sound levels measured during this later evening period, up to 22:00 hours, the lowest ambient sound level measured up to this period has been used for comparison with noise breakout during this critical period.

### 5.2 Noise Breakout via Rear Wall, Roof Junction and External Fire Escape Doors to Rear – Impact on Dwellings to West of Unit

Sound insulation testing of airborne breakout to the rear of the unit was undertaken, with the microphone sited around 2 metres away from the rear façade and 6 metres below the junction of the external wall and roof junction. Subjectively, the sound insulation performance of the wall was noted to be heavily compromised by sound breakout from the roof junction with the external wall (Test A).

Sound insulation testing was also carried out in proximity to the external fire escape doors to the rear of the unit, which were noted to be the weakest point on the rear façade for external breakout (Test B).

The full results of the test are presented in Appendix D (Test A and B). The single figure result of the tests are 35dB  $D_w$  and 32dB  $D_w$  respectively.

Figure 1 below presents the results of an assessment of activity noise breakout with negligible contribution from doors. This assessment has assumed distance attenuation from the roof junction to the façade of the nearest affected receptor based on standard line source attenuation theory (from around 6 metres at measurement position to 10 metres at receptor).

Figure 1 – Assessment of Airborne Noise Breakout from Rear Façade (away from doors)

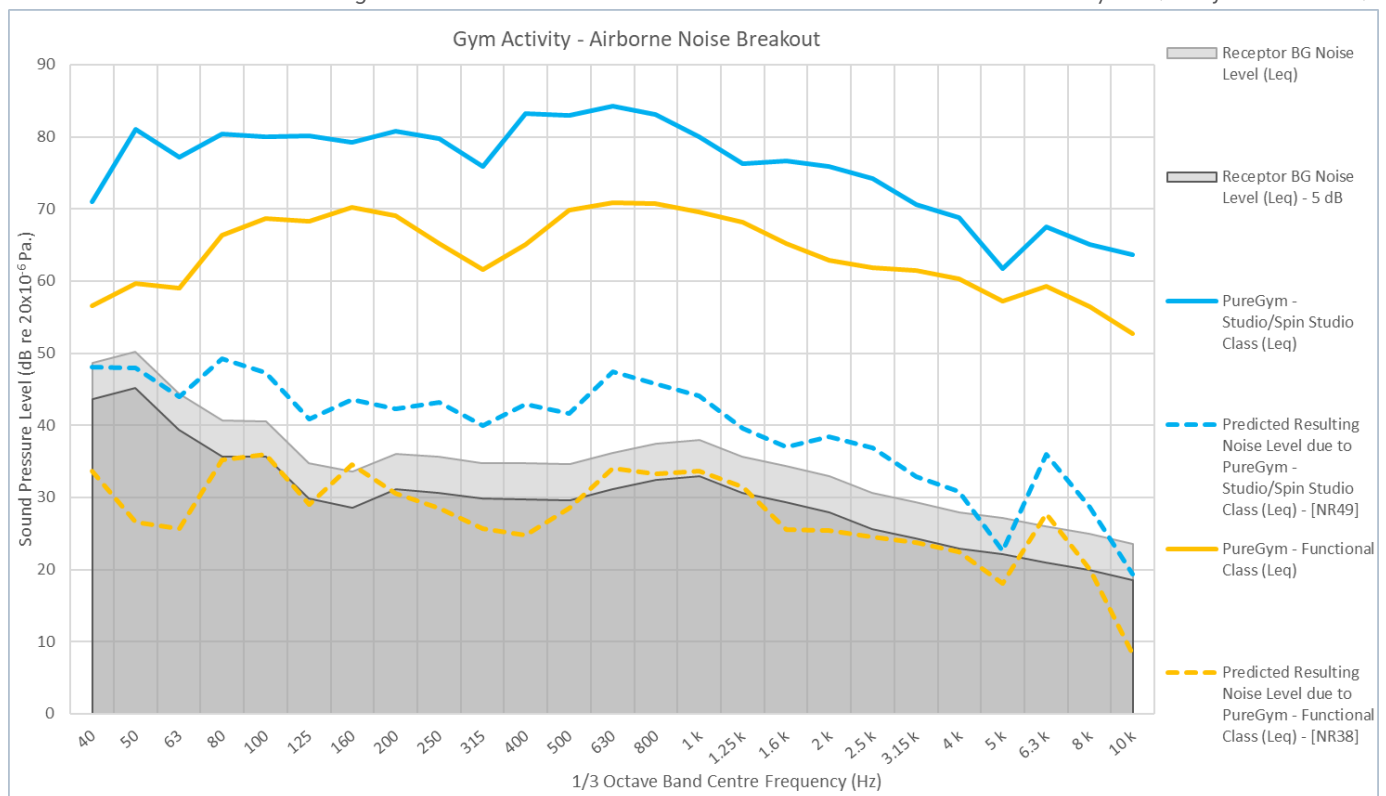
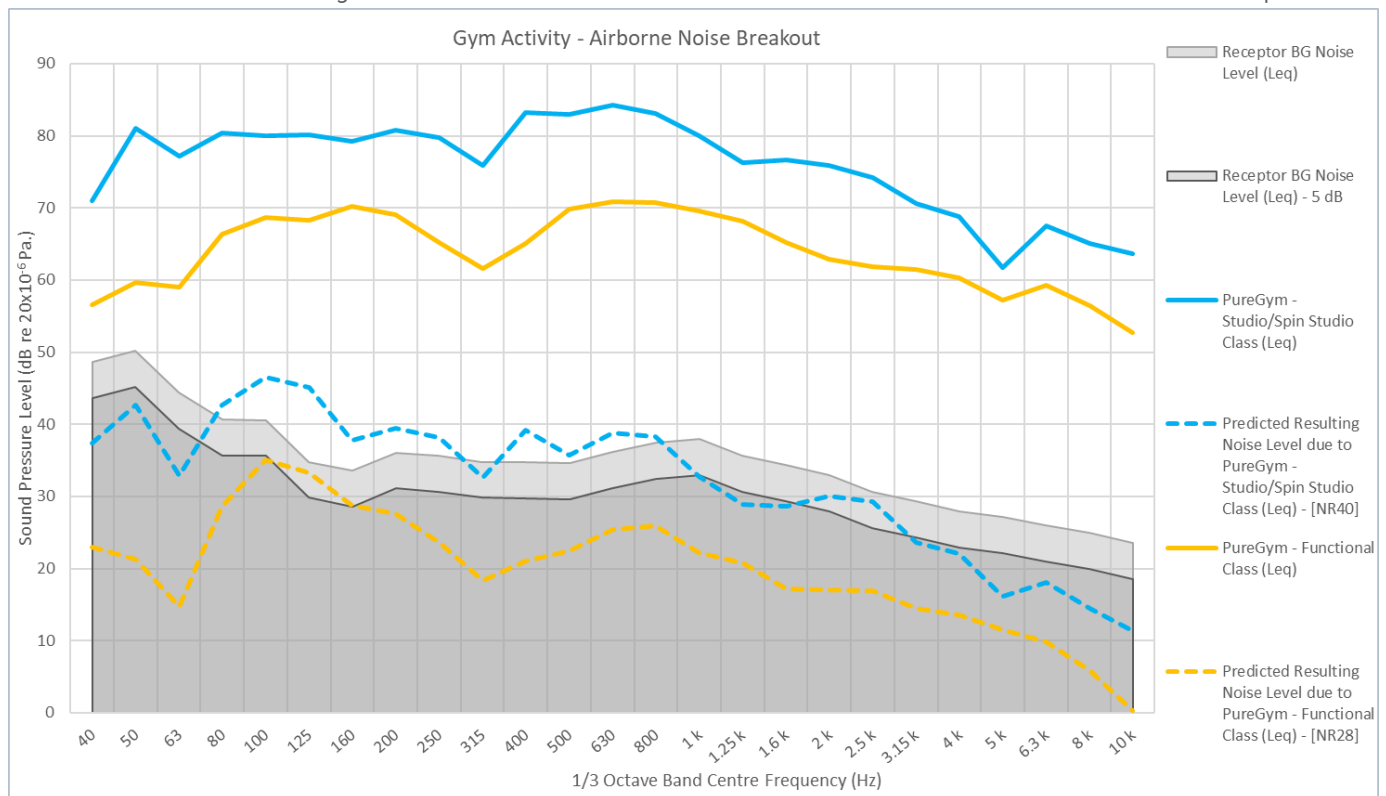


Figure 2 below presents the results of an assessment of activity noise breakout from doors. This assessment has assumed distance attenuation from the doors to the façade of the nearest affected receptor based on standard point source attenuation theory (from around 2 metres at measurement position to 10 metres at receptor).

Figure 2 – Assessment of Airborne Noise Breakout from Rear External Fire Escape Doors



It can be seen from the above that breakout noise from both Functional activities and Studio activities is expected to exceed the adopted criterion of 5dB below the otherwise ambient sound level.

As such, if either of these areas are to be located along the rear external wall, acoustic treatment should be applied to control noise breakout, as specified in Section 6.0.

Noise breaking out from the main gym floor is not predicted to be problematic in this area.

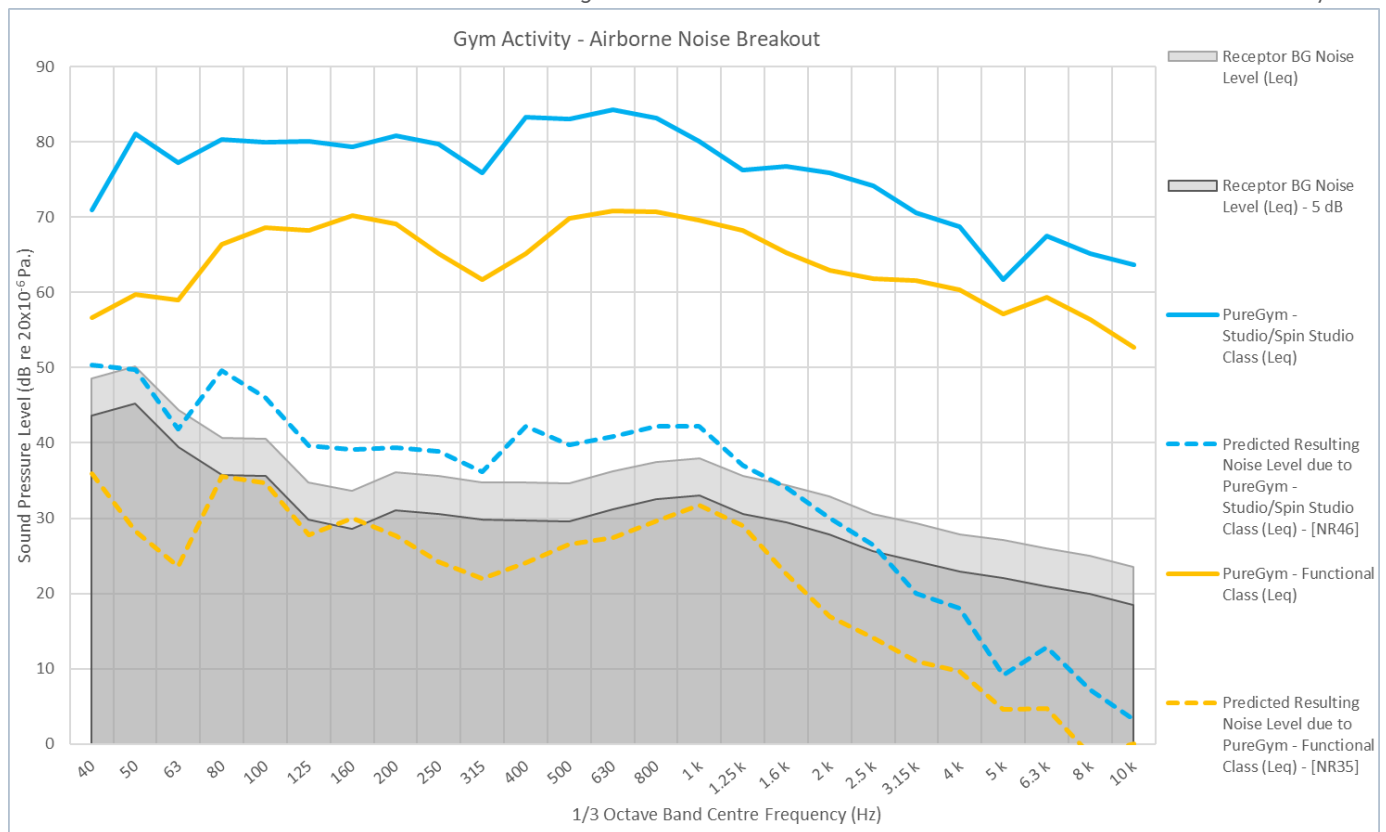
### 5.3 Noise Breakout via Side Walls and Roof Junction – Impact on Dwellings to South-West and North-East of Unit

Sound insulation testing of airborne breakout to the side of the unit was undertaken, with the microphone sited around 1 metre away from the rear façade and 7 metres below the junction of the external wall and roof junction. Subjectively, the sound insulation performance of the wall was noted to be heavily compromised by sound breakout from the roof junction with the external wall (Test C).

The full results of the test are presented in Appendix D (Test C). The single figure result of the test is 42dB  $D_w$ . Noise breakout via the junction of the side wall with the roof was noted to be lower than noise breakout via the junction of the rear wall with the roof.

Figure 3 below presents the results of an assessment of activity noise breakout. This assessment has assumed distance attenuation from the roof junction to the façade of the nearest affected receptor based on standard line source attenuation theory (from around 7 metres at measurement position to 10 metres at receptor, since there are annexes at the end of some gardens).

Figure 3 – Assessment of Airborne Noise Breakout from Side Façade



It can be seen from the above that breakout noise from Functional activities is expected to achieve the adopted criterion of 5dB below the otherwise ambient sound level at all frequencies. However, breakout noise from Studio activities is expected to exceed the adopted criterion of 5dB below the otherwise ambient sound level in several frequency bands.

As such, if the Studio area is to be located along one of the side external walls, acoustic treatment should be applied to control noise breakout, as specified in Section 6.0.

Noise breaking out from the main gym floor is not predicted to be problematic in this area.

#### 5.4 Noise Breakout via Front Façade Cladding and Glazing – Impact on Dwellings to South and North-East of Unit

Sound insulation testing of airborne breakout to the front of the unit was undertaken for multiple items. Several acoustic weak points were noted, including the glazed double doors, the fixed glazed fronts and casement windows.

The first test was undertaken of the fixed glazing to the front of the unit, with the microphone sited around 3 metres away from the façade. Subjectively, the sound insulation performance of the wall was noted to be compromised by sound breakout from the lightweight cladding at higher level, with a weak performance at high frequency due to penetrations in the cladding and gaps around the cladding and glazed framing. The full results of the test are presented in Appendix D (Test D). The single figure result of the test is 25dB  $D_w$ . Noise breakout via the front door was also measured (Test E in Appendix D) and also achieved 25dB  $D_w$ .

Figure 4 and Figure 5 below present the results of an assessment of activity noise breakout. This assessment has assumed distance attenuation from the unit to the façade of the nearest affected receptor based on standard point source attenuation theory for the glazing (from around 3 metres at the measurement position to 32 metres at receptor and line source attenuation theory for the cladding (from around 4 metres at measurement position to 32 metres at receptor).

Figure 4 – Assessment of Airborne Noise Breakout from Front Façade Fixed Glazing and Glazed Front Double Doors

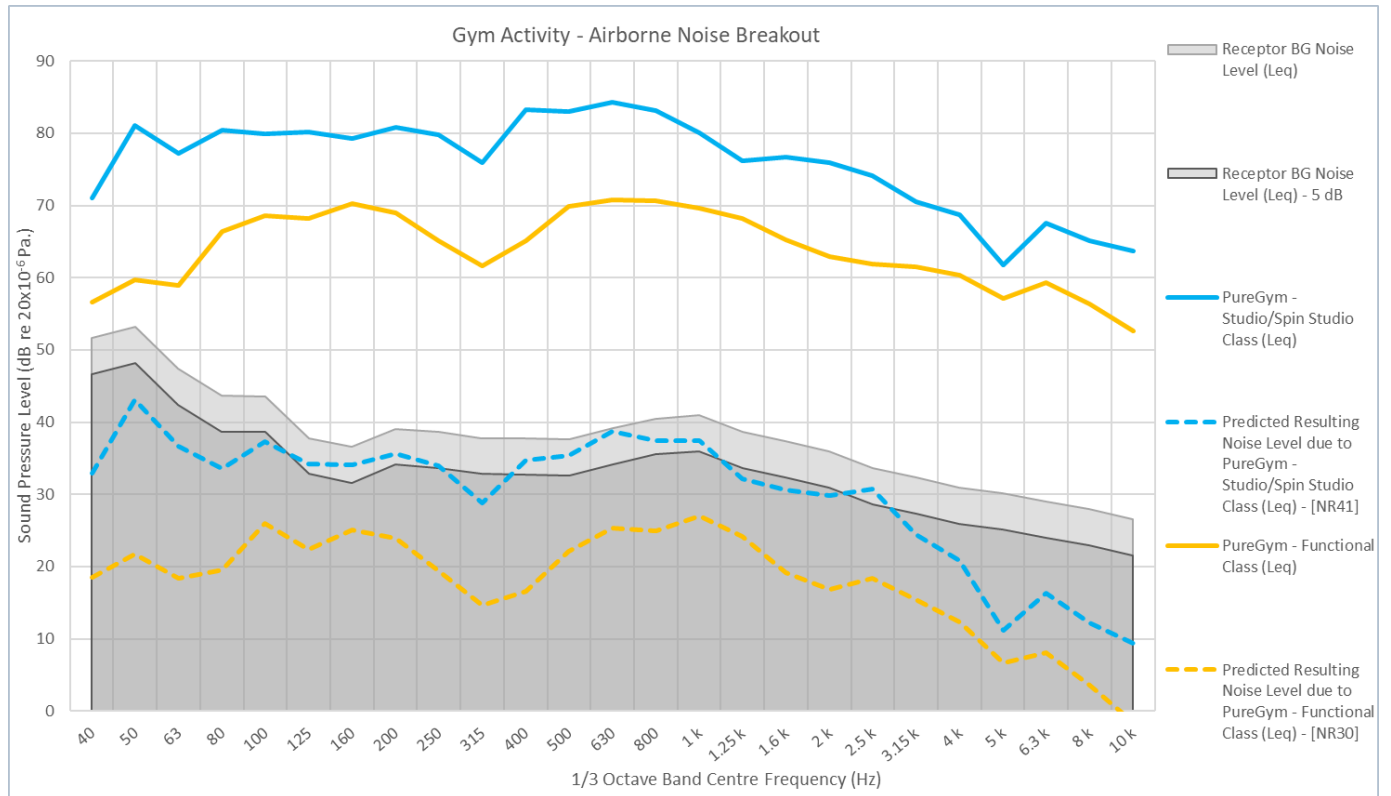
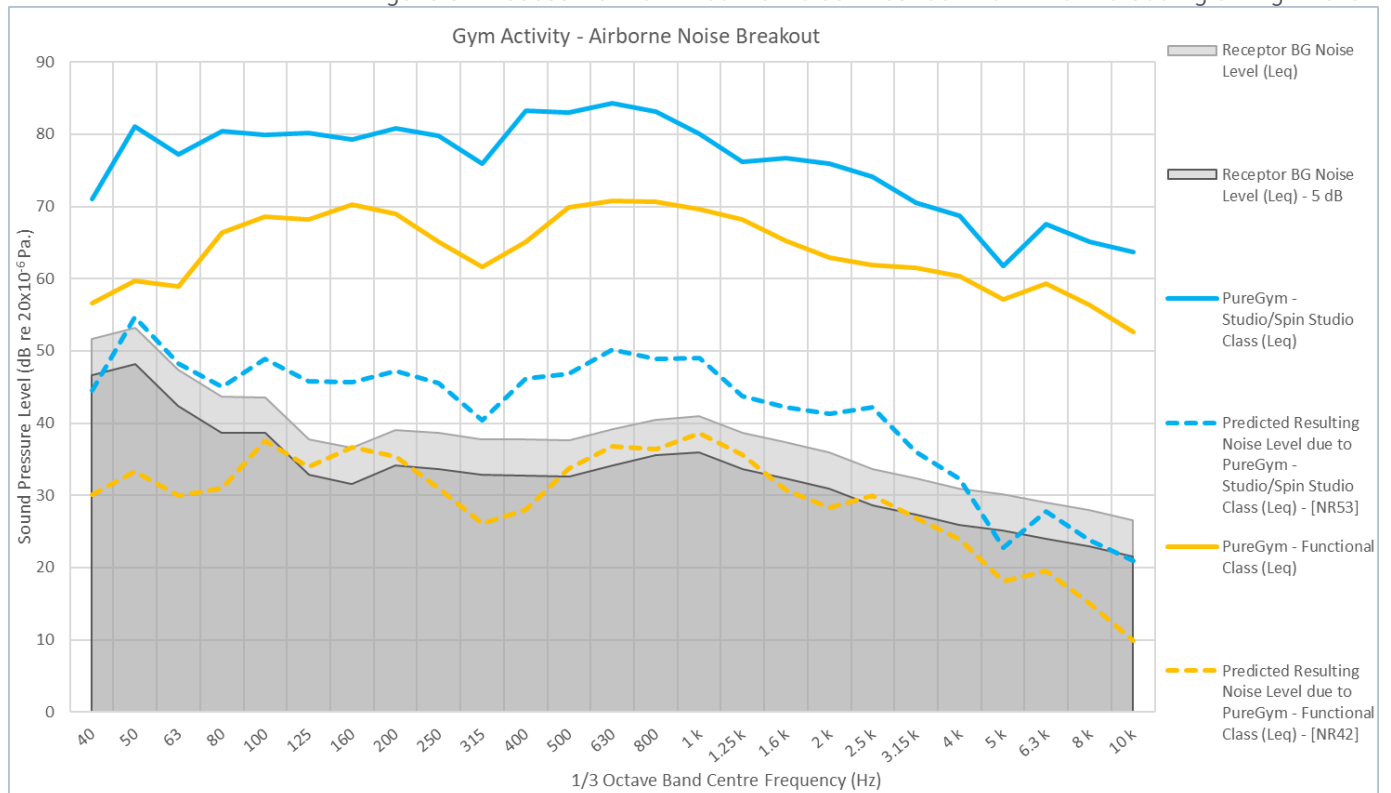


Figure 5 – Assessment of Airborne Noise Breakout from Front Cladding at High Level



### *Fixed Glazed Fronts*

It can be seen from the above that breakout noise from Functional activities is expected to achieve the adopted criterion of 5dB below the otherwise ambient sound level due to breakout from the glazing. However, breakout noise from Studio activities is expected to exceed the adopted criterion of 5dB below the otherwise ambient sound level in some higher frequency bands.

As such, if the Studio area is to be located adjacent to the glazed fronts, acoustic treatment should be applied to control noise breakout, as specified in Section 6.0.

Noise breaking out from the main gym floor is not predicted to be problematic in this area.

### *Front Cladding at High Level*

It can be seen from the above that breakout noise from both Functional activities and Studio activities are expected to exceed the adopted criterion of 5dB below the otherwise ambient sound level in several frequency bands.

As such, if the either the Functional or Studio areas are to be located adjacent to the glazed fronts, acoustic treatment should be applied to control noise breakout, as specified in Section 6.0.

Noise breaking out from the main gym floor is not predicted to be problematic in this area.

### *Casement Windows*

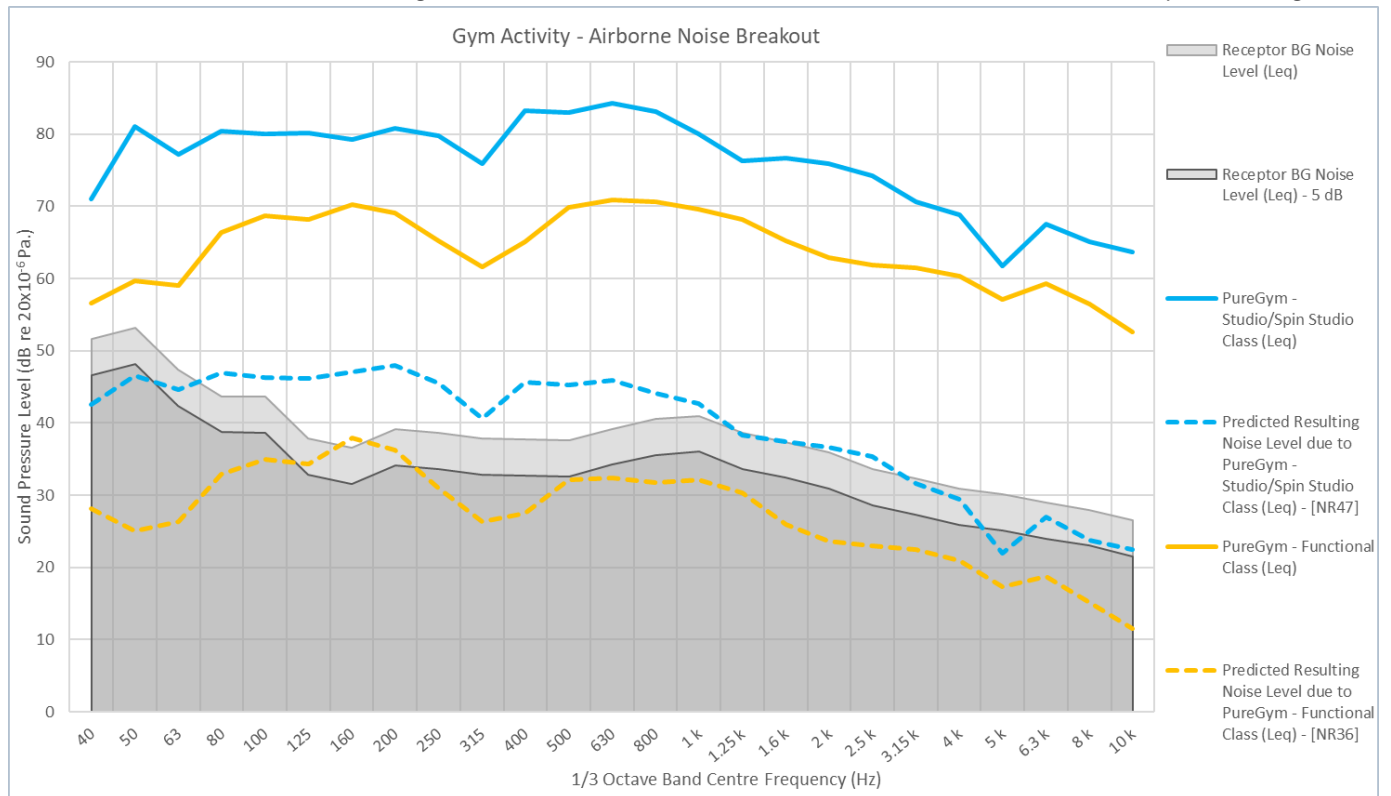
There were also casement windows on the north-east corner of the building, but these achieved slightly better performance (28 dB  $D_w$ ). Based on point source distance attenuation from 2 to 22 metres at the receptor, no mitigation is expected to be needed to comply with the targets for either the Functional or Studio activities.

## 5.5 Noise Breakout via Sliding Lightweight Door to Front of Unit – Impact on Dwellings to South and North-East of Unit

Sound insulation testing of airborne breakout to the front of the unit was undertaken, with the microphone sited around 3 metres away from the front sliding door. Subjectively, the sound insulation performance of the wall was noted to be dominated by sound breakout from the door itself (Test F). The full results of the test are presented in Appendix D and the single figure result of the test is 19dB  $D_w$ .

Figure 6 below presents the results of an assessment of activity noise breakout from the sliding door. This assessment has assumed distance attenuation from the door to the façade of the nearest affected receptor based on standard point source attenuation theory (from around 3 metres at measurement position to 30 metres at receptor).

Figure 6 – Assessment of Airborne Noise Breakout from Front Façade Sliding Door



It can be seen from the above that breakout noise from both Functional activities and Studio activities is expected to exceed the adopted criterion of 5dB below the otherwise ambient sound level.

As such, if either of these areas are to be located in proximity to the front sliding door, acoustic treatment should be applied to control noise breakout, as specified in Section 6.0.

Noise breaking out from the main gym floor is not predicted to be problematic in this area.

## 6.0 RECOMMENDED MITIGATION TO CONTROL INTERNAL NOISE BREAKOUT

Based on the findings in Section 5.0, it is recommended that the following mitigation measures be applied to the external elements of the unit to control amplified music/sound breakout.

The recommendations below assume that the operational noise levels in Section 4.1 are adopted.

We understand that the lightweight sliding door will be replaced with sealed glazing, which will have better sound insulation properties.

### 6.1 Main Gym Floor

For the main gym floor, it should be ensured that all holes/gaps in the lightweight cladding and the junction with wall and roof on the front façade are well sealed to mitigate breakout.

Aside from this, no mitigation measures are required to mitigate noise breakout from the main gym floor.

### 6.2 Functional Class Area

For the functional class area, the best location acoustically for this area is adjacent to the façades on the side of the unit, where no additional mitigation would be needed.

It should be sited away from the rear façade, the front lightweight sliding door and the lightweight cladding on the front façade in order to avoid additional mitigation measures being required.

### 6.3 Studio Class Area

We understand that it is desirable for Studio areas to be left open rather than enclosed, but it would be necessary to install other physical mitigation measures, as well as limit music operating levels in order to achieve the recommended airborne noise breakout targets.

For the studio class area, the best location acoustically for this area is in the north-east corner of the unit, adjacent to the side façade (north-east facing).

Presented below are two options for mitigating airborne noise breakout from the studio to suitable levels, assuming it is placed in the north-east corner of the unit. If placed elsewhere within the building, further mitigation may be necessary.

#### *Option 1 – Lower Operational Noise Limits*

To avoid physical mitigation measures altogether, the source noise levels from the electroacoustic systems within the studio area will need to be limited, in line with those below (assuming the studio can be located in the north-east corner of the building):

Table 2 – Limiting Noise Levels for Electroacoustics Systems with Studio Area in Ideal Location and no Physical Mitigation Measures

| Location in Unit                              | Maximum Reverberant Sound Pressure Level (dB re 20x10 <sup>-6</sup> Pa.)<br>@ Octave Band Centre Frequency (Hz) |     |     |     |    |    |    |    | dBA |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----|-----|-----|----|----|----|----|-----|
|                                               | 63                                                                                                              | 125 | 250 | 500 | 1k | 2k | 4k | 8k |     |
| North-east corner of unit<br>(away from rear) | 80                                                                                                              | 74  | 75  | 77  | 76 | 73 | 68 | 60 | 80  |

It is feasible for the studio to operate at this level without the need for any physical mitigation measures.

### *Option 2 – Operational Noise Limits and some Physical Mitigation Measures*

In this location, the source noise levels from the electroacoustic systems within the studio area will need to be limited, in line with those below:

Table 3 – Limiting Noise Levels for Electroacoustics Systems with Studio Area in Ideal Location and some Physical Mitigation Measures

| Location in Unit                              | Maximum Reverberant Sound Pressure Level (dB re 20x10 <sup>-6</sup> Pa.)<br>@ Octave Band Centre Frequency (Hz) |     |     |     |    |    |    |    | dBA |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----|-----|-----|----|----|----|----|-----|
|                                               | 63                                                                                                              | 125 | 250 | 500 | 1k | 2k | 4k | 8k |     |
| North-east corner of unit<br>(away from rear) | 83                                                                                                              | 78  | 81  | 83  | 82 | 79 | 74 | 66 | 86  |

It is feasible for the studio to operate at this level providing the following physical mitigation measures are also installed.

Should it be possible to site the studio class area in the ideal location (i.e., away from the weaker elements of the building envelope) and limit operational noise to the above levels, the following mitigation measures would be required:

- **Item 1** – Install a lobby between the large lightweight sliding door to front of unit to separate it from the studio. Or replacement building element (i.e., appropriate glazing or masonry)
- **Item 2** – Install a bulkhead to the junction of the external wall and roof along the front, rear and side façades
- **Item 3** – Ensured that all holes/gaps in the lightweight cladding and the junction with wall and roof on the front façade are well sealed/air-tight to mitigate noise breakout

More detail on specifications for Items 1 and 2 is provided below.

#### Item 1 – Lobby to Lightweight Sliding Door or Replacement Building Element

The door should be fitted with an acoustic lobby, with the internal doors achieving a minimum sound insulation performance of 30dB R<sub>w</sub>. The walls/ceiling forming the lobby should achieve a minimum sound insulation performance of 35dB R<sub>w</sub>.

Alternatively, this will not be necessary if the lightweight door is replaced by a suitable building element (i.e., appropriate glazing or masonry).

#### Item 2 – Bulkhead to Wall-Roof Junction

An acoustic bulkhead should be formed at the junction of the external wall with the lightweight roof. The roof should be underlined with an acoustic mass layer ceiling for a distance 3 metres from the external walls. The acoustic ceiling should comprise 2x layers 15mm Gyproc SoundBloc or Knauf Soundshield boards supported on a metal frame grid from the underside of the roof.

Figure A – Typical Acoustic Bulkhead



The MF grid suspension system should be adequately designed to accommodate the loading of the plasterboard and will likely require the input of a structural engineer.

The end of the bulkhead should be returned up to the underside of the roof and form a tight seal at the underside. It will be necessary to scribe tightly around any penetrations of steels, purlins, etc. and also any profiles of the underside of the roof (e.g. trapezoidal). Additional plasterboard layers may need to be scribed and face fixed to the main bulkhead to achieve this.

## 7.0 ENVIRONMENTAL NOISE MONITORING

Monitoring of the prevailing background noise levels was undertaken between approx. 14:30 hours on Monday 9<sup>th</sup> and 13:00 hours on Tuesday 10<sup>th</sup> February 2026. The equipment was installed by Aaron Moroney (BSc (Hons), MIOA) of RBA Acoustics.

### 7.1 Measurement Location

In order to determine the background noise climate at the nearest affected residential receptors to the site, the equipment was installed on the north-western boundary of the site, to the rear of the unit. The sound level meter was secured to a railing, with the connecting microphone mounted on a pole such that it was approximately 2 metres above the ground level at the proposed PureGym unit. The prevailing noise climate at this location was considered representative of the background noise climate at the nearest noise sensitive receptors along Rainbow Park.

Continuous measurements of the  $L_{A90}$ ,  $L_{Amax}$  and  $L_{Aeq}$  noise levels were made over sample periods of 15 minutes duration throughout the survey period.

The measurement location is illustrated on the photograph and site plan in Figures A and D in Appendix B.

The prevailing noise climate at the measurement position was noted to consist mainly of screened road traffic noise from the surrounding roads (i.e., Reading Road, M4 and King Street Lane).

Weather conditions were considered to be suitable for the measurement of noise, it generally being dry with light winds.

### 7.2 Instrumentation

For information regarding the equipment used for the measurements please refer to Appendix C.

The sound level meter was calibrated both prior to and on completion of the survey with no calibration drifts observed. The sound level meter and calibrator have been laboratory calibrated within the last 2 years and 1 year respectively.

### 7.3 Measurement Results

The full results of the measured sound levels are shown as time-histories on the Graphs presented in Appendix E.

The typically lowest measured  $L_{A90, 15min}$  periods are summarised in the table below. These are based on the 90<sup>th</sup> percentile of the 15-minute dataset over the survey period. For comparison, the absolute lowest level is also shown in brackets, although these may be considered atypical.

Table 4 – Summary of Noise Survey Data

| Measurement period         | Measured typical lowest $L_{A90, 15min}$ |
|----------------------------|------------------------------------------|
| Daytime (07:00 – 23:00)    | 43dB (40dB)                              |
| Night-time (23:00 – 07:00) | 36dB (34dB)                              |

## 8.0 PLANT NOISE IMPACT

### 8.1 Local Authority Liaison

Noise associated with the operation of future plant items associated with the scheme has the potential to adversely impact upon the nearby noise sensitive properties.

RBA Acoustics made contact with Wokingham Council on 4<sup>th</sup> February regarding typical plant noise criteria and have yet to receive a full response, although the query has been forwarded to the Environmental Health Officer.

As best practice, we advise that an assessment of plant noise impact should be undertaken in accordance with BS4142:2014+A1:2019 to assess the risk of complaint due to noise impact from future proposed plant items serving the PureGym unit.

### 8.2 British Standard 4142:2014+A1:2019

BS4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

- sound from industrial and manufacturing processes
- sound from fixed installations which comprise mechanical and electrical plant and equipment
- sound from the loading and unloading of goods and materials at industrial and/or commercial premises
- sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

The methods described within BS4142 use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

The standard is also applicable to determine rating levels for sound of an industrial or commercial nature at proposed new dwellings or premises used for residential premises. The standard is only appropriate for the assessment of external sound levels.

The assessment method described in BS4142 is based on the continuous sound pressure level produced by a specific source ( $L_{Aeq,Tr}$ ) at the assessment location. Appropriate corrections allowing for any tonality, impulsivity, other characteristics or intermittency of the specific sound source are then applied to derive the rating level ( $L_{Ar,Tr}$ ). The rating level is then compared to the background sound level ( $L_{A90,T}$ ) to produce the relative difference, or excess of rating level over background sound level. BS4142 quantifies the estimated impact from the excess as:

- a) Typically the greater this difference, the greater the magnitude of impact.
- b) A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. 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 on the context.

### 8.3 Plant Noise Emission Limits

Based on the guidance in BS4142, it is considered reasonable for the rating noise level from future plant serving the PureGym unit to not exceed a level 5dB below the otherwise background sound level during the periods in which the plant will be operational in order that there will be no adverse impact on the nearby noise sensitive properties. From review of other applications on the planning portal, this is expected to be the requirement from Wokingham Council if plant noise emissions are conditioned.

Considering the above, and the typically lowest noise levels measured, the following plant noise emission limits are recommended, which should be achieved at 1 metre from the façade of the noise sensitive properties due to cumulative operation of the proposed PureGym plant at representative worst-case duty.

Table 5 – Plant Noise Emission Limits

| Period                     | Cumulative Plant Noise Limit Level (dB) |
|----------------------------|-----------------------------------------|
| Daytime (07:00 – 23:00)    | 38dB L <sub>Af, T</sub>                 |
| Night-time (23:00 – 07:00) | 31dB L <sub>Af, T</sub>                 |

In line with BS4142, should the proposed plant be identified as having intermittent or tonal characteristics, a further penalty should be subtracted from any of the above proposed noise emission limits.

### 8.4 Nearest Noise Sensitive Receptors

It is understood that plant is likely to be sited towards the front of the property, on the north east perimeter of the building envelope, approximately 20 metres from the edge of 2 King Street Lane. The nearest noise sensitive receptors to the site that are likely to be affected by noise from fixed plant items are therefore rear windows of 2 King Street Lane. The nearest receptor location is identified in Figure A in Appendix B.

### 8.5 Proposed Plant Items

At the time of writing, details regarding the specific plant items, their noise levels and operating hours required for mechanically servicing the property are not available, as plant details are yet to be confirmed.

The following plant selections are based on PureGym's typical medium to large box design:

- 9no. Condensing Units (9no. Mitsubishi PUZ-M250YKA, externally mounted).

At this stage, only the externally mounted condenser units are considered in the assessment as these are regarded the most critical and high-risk items of plant associated with the site. Other items of plant are generally ducted or located within the building and are therefore much easier to attenuate.

Information regarding the noise levels of the proposed plant has been provided by the manufacturers of the units. The associated plant noise levels are detailed in Table 6 below.

Table 6 – Plant Noise Levels

| Plant Details                                | Parameter | Sound Level (dB) at Octave Band Centre Frequency (Hz) |     |     |     |    |    |    |    | dBA |
|----------------------------------------------|-----------|-------------------------------------------------------|-----|-----|-----|----|----|----|----|-----|
|                                              |           | 63                                                    | 125 | 250 | 500 | 1k | 2k | 4k | 8k |     |
| Condensing Units<br>(Mitsubishi PUZ-M250YKA) | Lp at 1m  | 72                                                    | 62  | 61  | 61  | 57 | 53 | 59 | 53 | 62  |

Review of the octave band data provides no indication of any tonal characteristics associated with the proposed plant.

## 8.6 Plant Noise Assessment – No Mitigation

Our calculation method for predicting noise levels from the proposed plant at the nearest residential windows, based on the information stated above, is summarised below.

- Source Term SPL / SWL
- 20LogR Distance Attenuation
- Reflections

From the review of the noise data, and the expected operation of the units, it is not expected that there will be any attention-grabbing characteristics of the noise audible at the nearest noise sensitive properties that would attract any rating corrections based on BS 4142 methodology.

Considering the above, the results of the calculations indicate the following noise levels at 1 metre from the façade of the most affected residential dwelling at 2 King Street Lane (NSR 4).

Table 7 – Plant Noise Assessment – Location 1

| Plant Details                                | Predicted Noise Level @ Nearest Noise-Sensitive Receptor |                    |                              |
|----------------------------------------------|----------------------------------------------------------|--------------------|------------------------------|
|                                              | Specific Noise Level                                     | Rating Corrections | BS 4142 Rating Noise Level   |
| Condensing Units<br>(Mitsubishi PUZ-M250YKA) | 49dBA                                                    | 0                  | 49dB L <sub>Ar,T</sub>       |
| <b>Total Noise Level @ Receptor 1</b>        |                                                          |                    | <b>49dB L<sub>Ar,T</sub></b> |

From the above it can be seen that the predicted noise level at the nearest residential receptor exceeds the adopted plant noise limits for both the daytime and night-time periods by 11 dB for daytime and 18 dB for night-time.

## 8.7 Required Mitigation

Our calculations indicate that attenuation would be required to condenser units. Condenser units should be sited within a lidded enclosure that achieves the following minimum insertion loss.

Table 8 – Enclosure Performance Requirements

| Attenuator Serving  | Insertion Loss (dB) at Octave Band Centre Frequency (Hz) |     |     |     |    |    |    |    |
|---------------------|----------------------------------------------------------|-----|-----|-----|----|----|----|----|
|                     | 63                                                       | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| All Condenser Units | 9                                                        | 10  | 14  | 20  | 27 | 28 | 26 | 22 |

## 8.8 Plant Noise Assessment – With Mitigation

With mitigation included, the results of the calculations indicate the following noise levels at 1 metre from the façade of the most affected residential dwelling at 2 King Street Lane (NSR 4).

Table 9 – Plant Noise Assessment – Location 1

| Plant Details                                | Predicted Noise Level @ Nearest Noise-Sensitive Receptor |                    |                               |
|----------------------------------------------|----------------------------------------------------------|--------------------|-------------------------------|
|                                              | Specific Noise Level                                     | Rating Corrections | BS 4142 Rating Noise Level    |
| Condensing Units<br>(Mitsubishi PUZ-M250YKA) | 30dBA                                                    | 0                  | 30dB L <sub>Ar, T</sub>       |
| <b>Total Noise Level @ Receptor 1</b>        |                                                          |                    | <b>30dB L<sub>Ar, T</sub></b> |

From the above it can be seen that the predicted noise level at the nearest residential receptor achieves the adopted plant noise limits for both the daytime and night-time periods.

## 8.9 Uncertainty

Uncertainty is an unavoidable feature of measurements in the field, which can be subject to many factors; the weather typically being the most significant of which with respect to the measurement of sound. Uncertainty is also unavoidable in the prediction of sound levels, where naturally, before the scenario being considered becomes a reality, a number of assumptions need to be relied upon. There is also the uncertainty of people's reactions, which can be influenced by a number of factors, not just the magnitude or character of the sound in question.

In keeping with the scale of each project, therefore, it is the aim of RBA Acoustics to minimise uncertainty at each stage as far as reasonably practicable. With this in mind, RBA Acoustics follow the best practise methodologies based on the guidance within BS 4142 and our experience in undertaking assessments of these nature.

Crucially, it has been determined that environmental noise measurements have been undertaken by suitably qualified staff, using in calibration equipment and avoiding adverse weather conditions.

The predictions have also been undertaken by suitably qualified staff, whilst using the best available information, an industry standard calculation method, and the most applicable calculation procedures.

Notwithstanding this, naturally some uncertainty remains. Given the sheer number of factors involved, however, it is not feasible to place a value on the level of uncertainty, without resulting in an unhelpful range of possible outcomes. It is the professional position of RBA Acoustics that uncertainty has been kept to a realistic minimum and that the outcome of this assessment is sufficiently representative.

## 8.10 Future Plant Assessment

When details regarding the final plant selections and layout are available, consideration will need to be given to the following:

- The location of the nearest noise sensitive premises to the proposed locations of the plant and the distance from the plant location to the nearest noise sensitive window.
- The proposed operational hours of the plant, plant type, number of plant and location of plant.

- 
- Manufacturer's specifications of plant and/or proposed noise levels of internal activity in octave or 1/3 octave band format.
  - Calculations for the predicted noise level 1 metre from the window of the nearest sensitive property including distance, directionality and screening effects.
  - The report should demonstrate that the predicted noise level outside the most affected window will comply with the limits stated in the standard condition.
  - Details of any proposed attenuation measures and details of noise reductions achieved (including manufacturer's guidance on acoustic performance of any acoustic louvers, enclosure, screens etc).

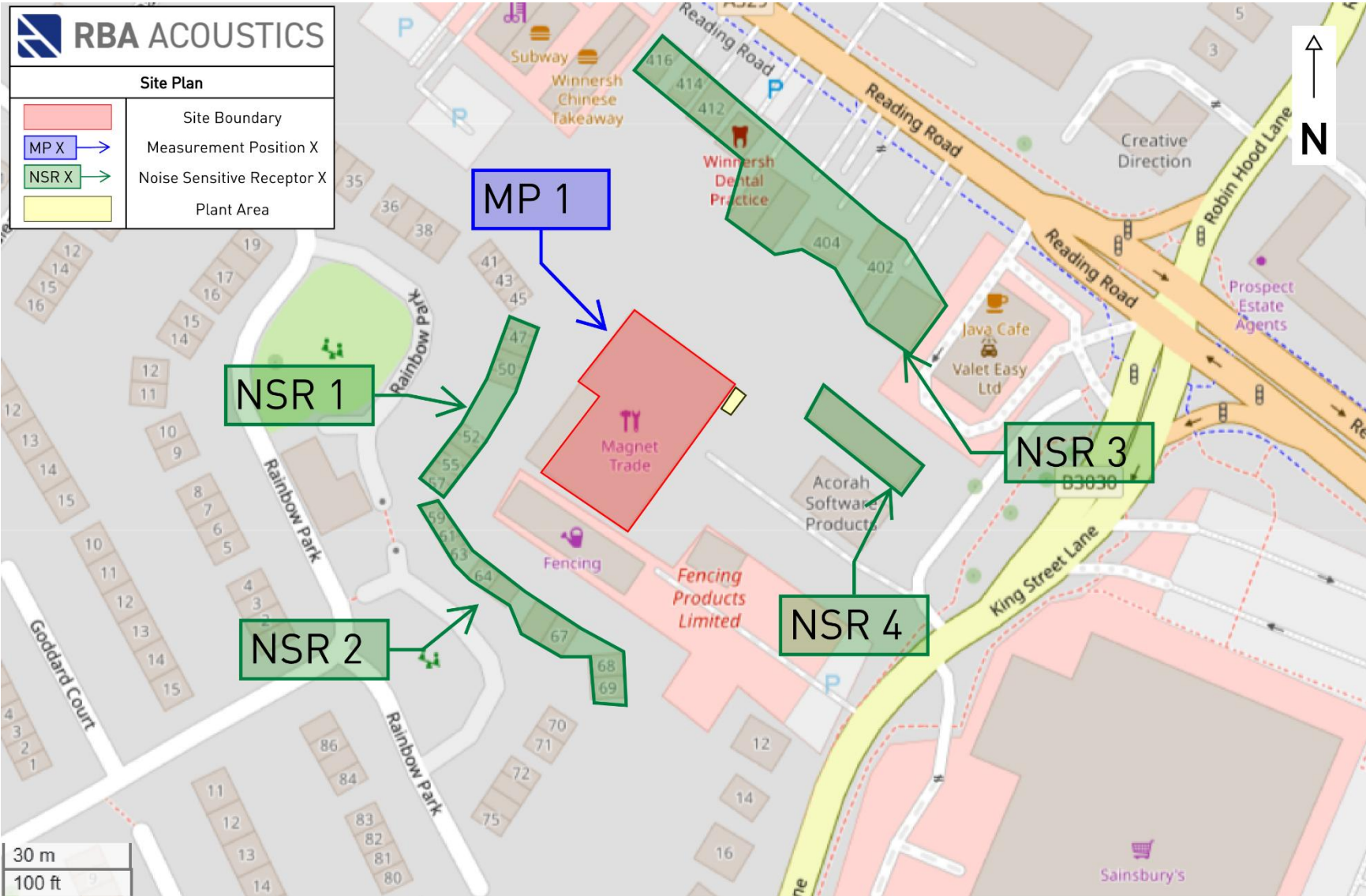
A full report detailing plant selections and predicted noise levels will be prepared once such details are available.

# APPENDICES

# Appendix A – Acoustic Terminology

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dB                                     | Decibel - Used as a measurement of sound pressure level. It is the logarithmic ratio of the noise being assessed to a standard reference level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| dB(A)                                  | The human ear is more susceptible to mid-frequency noise than the high and low frequencies. To take account of this when measuring noise, the 'A' weighting scale is used so that the measured noise corresponds roughly to the overall level of noise that is discerned by the average human. It is also possible to calculate the 'A' weighted noise level by applying certain corrections to an un-weighted spectrum. The measured or calculated 'A' weighted noise level is known as the dB(A) level. Because of being a logarithmic scale noise levels in dB(A) do not have a linear relationship to each other. For similar noises, a change in noise level of 10dB(A) represents a doubling or halving of subjective loudness. A change of 3dB(A) is just perceptible. |
| $L_{eq}$                               | $L_{eq}$ is defined as a notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the actual, fluctuating sound measured over that period (1 hour).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| $L_{Aeq}$                              | The level of notional steady sound which, over a stated period of time, would have the same A-weighted acoustic energy as the A-weighted fluctuating noise measured over that period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| $L_{An}$ (e.g. $L_{A10}$ , $L_{A90}$ ) | If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The $L_n$ indices are used for this purpose, and the term refers to the level exceeded for n% of the time, hence $L_{10}$ is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, $L_{90}$ is the average minimum level and is often used to describe the background noise.                                                                                                                                                                                                                                                                                                                           |
| $L_{max,T}$                            | The instantaneous maximum sound pressure level which occurred during the measurement period, T. It is commonly used to measure the effect of very short duration bursts of noise, such as for example sudden bangs, shouts, car horns, emergency sirens etc. which audibly stand out from the general level of, say, traffic noise, but because of their very short duration, maybe only a very small fraction of a second, may not have any effect on the $L_{eq}$ value.                                                                                                                                                                                                                                                                                                    |
| Noise Rating (NR)                      | A standardised set of curves relating octave-band sound pressure level to the centre frequency of the octave bands, each of which is characterised by a 'noise rating' (NR), which is numerically equal to the sound pressure level at the intersection with the ordinate at 1kHz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Appendix B – Site Plan and Photographs



PureGym - Winnersh, Reading  
Site Plan  
Project 15174

Figure A  
10 March 2026  
Not to Scale



PureGym - Winnersh, Reading  
Airborne Breakout Test Positions – Rear and Side of Building  
Project 15174

Figure B  
10 March 2026  
Not to Scale



PureGym - Winnerssh, Reading  
Airborne Breakout Test Positions – Front of Building  
Project 15174

Figure C  
10 March 2026  
Not to Scale



PureGym - Winnersh, Reading  
Photograph of Environmental Noise Survey Measurement Position  
Project 15174

Figure D  
10 March 2026  
Not to Scale

## Appendix C – Measurement Equipment

| Manufacturer                      | Model Type | Serial No.   | Calibration     |                 |
|-----------------------------------|------------|--------------|-----------------|-----------------|
|                                   |            |              | Certificate No. | Valid Until     |
| Norsonic Type 1 Sound Level Meter | Nor140     | 1403226      | UCRT25/1108     | 16 January 2027 |
| Norsonic Pre Amplifier            | 1209A      | 12066        |                 |                 |
| Norsonic ½" Microphone            | 1225       | 168180       |                 |                 |
| Norsonic Sound Calibrator         | 1251       | 31988        | UCRT25/1104     |                 |
| Norsonic Type 1 Sound Level Meter | Nor140     | 1406262      | UCRT25/1646     | 24 April 2027   |
| Norsonic Pre Amplifier            | 1209       | 20487        |                 |                 |
| Norsonic ½" Microphone            | 1225       | 469005       |                 |                 |
| Norsonic Sound Calibrator         | 1251       | 34429        | UCRT25/1638     | 22 April 2027   |
| RCF Loudspeaker                   | ART 912-A  | YAQE04635    | N/A             | N/A             |
| NTI Minirator                     | MR2        | G2L-RABWB-G0 | N/A             | N/A             |
| Sound Solutions Tapping Machine   | Series 2   | TP02474      | TP02474/10/24   | 22 October 2026 |

## Appendix D – Sound Insulation Test Results

# TEST A – External Wall to Rear of Unit

## Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

Client : PureGym

Date of Test : 09 February 2026

Operative : Aaron Moroney  
Test Methodology : BS EN ISO 16283-1:2014

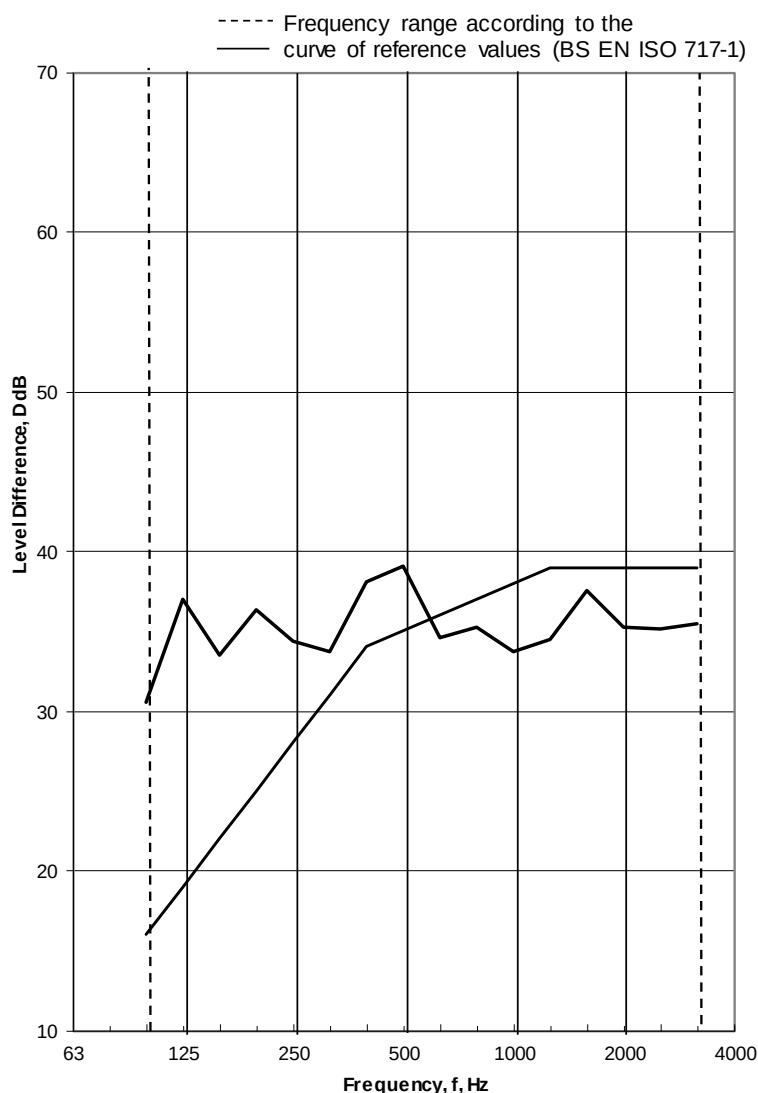
Construction Details & Test Arrangement :  
Rear brickwork wall and junction with roof

Test Type : Airborne Breakout  
Source Room : Inside Unit  
Receive Area : Rear of Unit

Equipment Details :  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 30.5                 |
| 125                  | 37.0                 |
| 160                  | 33.5                 |
| 200                  | 36.3                 |
| 250                  | 34.4                 |
| 315                  | 33.7                 |
| 400                  | 38.1                 |
| 500                  | 39.1                 |
| 630                  | 34.6                 |
| 800                  | 35.2                 |
| 1000                 | 33.7                 |
| 1250                 | 34.5                 |
| 1600                 | 37.5                 |
| 2000                 | 35.3                 |
| 2500                 | 35.1                 |
| 3150                 | 35.5                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 35 (0; 0) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test A

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## TEST B – External Fire Door to Rear of Unit

### Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

**Client :** PureGym

**Date of Test :** 09 February 2026

**Operative :** Aaron Moroney  
**Test Methodology :** BS EN ISO 16283-1:2014

**Construction Details & Test Arrangement :**  
Rear fire escape external doors

**Test Type :** Airborne Breakout  
**Source Room :** Inside Unit  
**Receive Area :** Rear of Unit

**Equipment Details :**  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 18.7                 |
| 125                  | 20.2                 |
| 160                  | 26.7                 |
| 200                  | 26.6                 |
| 250                  | 26.8                 |
| 315                  | 28.5                 |
| 400                  | 29.3                 |
| 500                  | 32.5                 |
| 630                  | 30.6                 |
| 800                  | 30.0                 |
| 1000                 | 32.5                 |
| 1250                 | 32.6                 |
| 1600                 | 33.3                 |
| 2000                 | 31.0                 |
| 2500                 | 30.1                 |
| 3150                 | 32.2                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 32 (-1; -2) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test B

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## TEST C – External Wall to Side of Unit

### Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

**Client :** PureGym

**Date of Test :** 09 February 2026

**Operative :** Aaron Moroney  
**Test Methodology :** BS EN ISO 16283-1:2014

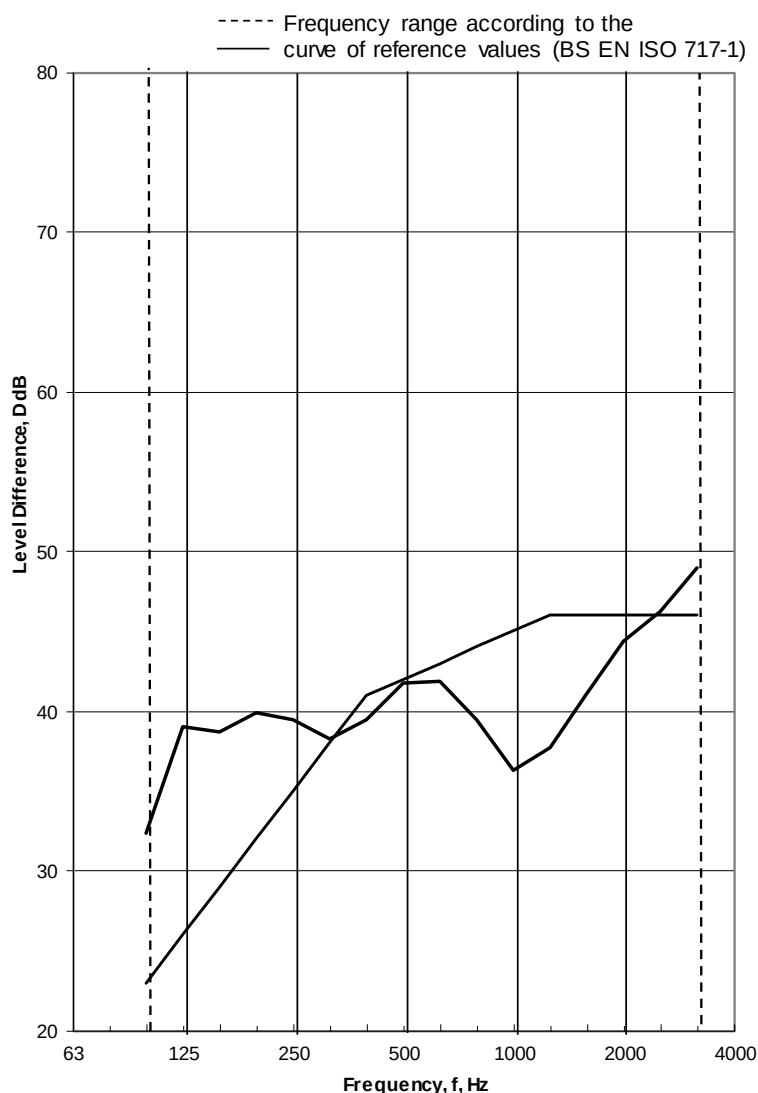
**Construction Details & Test Arrangement :**  
Side brickwork wall and junction with roof

**Test Type :** Airborne Breakout  
**Source Room :** Inside Unit  
**Receive Area :** Side of Unit

**Equipment Details :**  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 32.4                 |
| 125                  | 39.0                 |
| 160                  | 38.7                 |
| 200                  | 39.9                 |
| 250                  | 39.4                 |
| 315                  | 38.2                 |
| 400                  | 39.5                 |
| 500                  | 41.8                 |
| 630                  | 41.9                 |
| 800                  | 39.5                 |
| 1000                 | 36.3                 |
| 1250                 | 37.7                 |
| 1600                 | 41.1                 |
| 2000                 | 44.4                 |
| 2500                 | 46.2                 |
| 3150                 | 49.0                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 42 (-2; -3) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test C

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## TEST D – External Wall to Front of Unit

### Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

**Client :** PureGym

**Date of Test :** 09 February 2026

**Operative :** Aaron Moroney  
**Test Methodology :** BS EN ISO 16283-1:2014

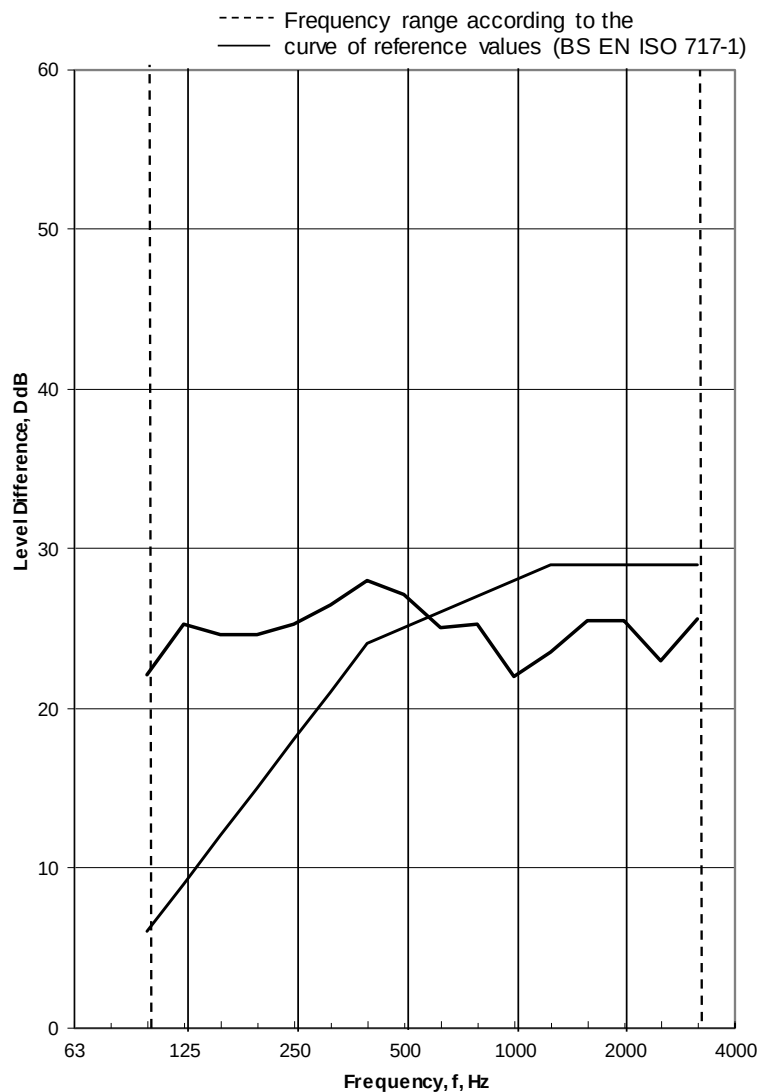
**Construction Details & Test Arrangement :**  
Lightweight cladding and fixed glazing

**Test Type :** Airborne Breakout  
**Source Room :** Inside Unit  
**Receive Area :** Front of Unit

**Equipment Details :**  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 22.1                 |
| 125                  | 25.3                 |
| 160                  | 24.6                 |
| 200                  | 24.6                 |
| 250                  | 25.2                 |
| 315                  | 26.5                 |
| 400                  | 28.0                 |
| 500                  | 27.1                 |
| 630                  | 25.0                 |
| 800                  | 25.2                 |
| 1000                 | 22.0                 |
| 1250                 | 23.5                 |
| 1600                 | 25.5                 |
| 2000                 | 25.5                 |
| 2500                 | 22.9                 |
| 3150                 | 25.6                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 25 (-1; -1) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test D

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## TEST E – Glazed Double Doors to Front of Unit

### Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

**Client :** PureGym

**Date of Test :** 09 February 2026

**Operative :** Aaron Moroney  
**Test Methodology :** BS EN ISO 16283-1:2014

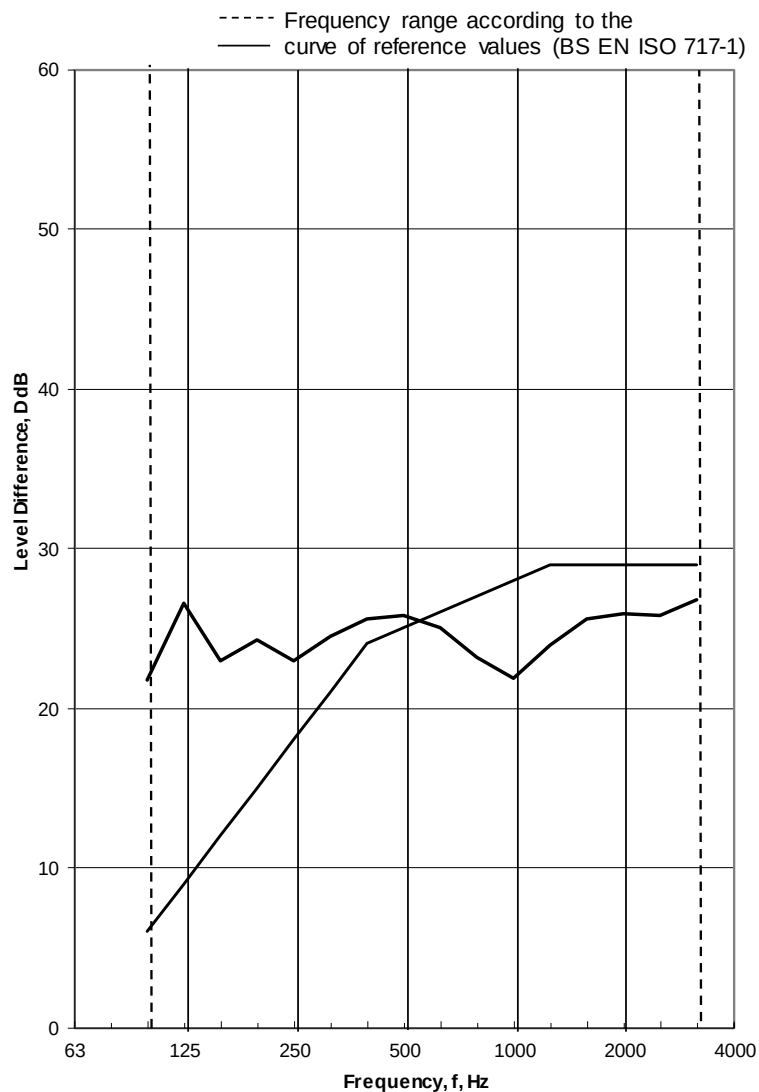
**Construction Details & Test Arrangement :**  
Glazed double doors

**Test Type :** Airborne Breakout  
**Source Room :** Inside Unit  
**Receive Area :** Front of Unit

**Equipment Details :**  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 21.8                 |
| 125                  | 26.6                 |
| 160                  | 22.9                 |
| 200                  | 24.3                 |
| 250                  | 23.0                 |
| 315                  | 24.5                 |
| 400                  | 25.6                 |
| 500                  | 25.8                 |
| 630                  | 25.0                 |
| 800                  | 23.2                 |
| 1000                 | 21.9                 |
| 1250                 | 23.9                 |
| 1600                 | 25.6                 |
| 2000                 | 25.9                 |
| 2500                 | 25.8                 |
| 3150                 | 26.8                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 25 (0; -1) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test E

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## TEST F – Sliding Lightweight Door to Front of Unit

### Standardised Level Difference According to BS EN ISO 16283-1:2014 Field Measurements of Airborne Sound Insulation Between Rooms

**Client :** PureGym

**Date of Test :** 09 February 2026

**Operative :** Aaron Moroney  
**Test Methodology :** BS EN ISO 16283-1:2014

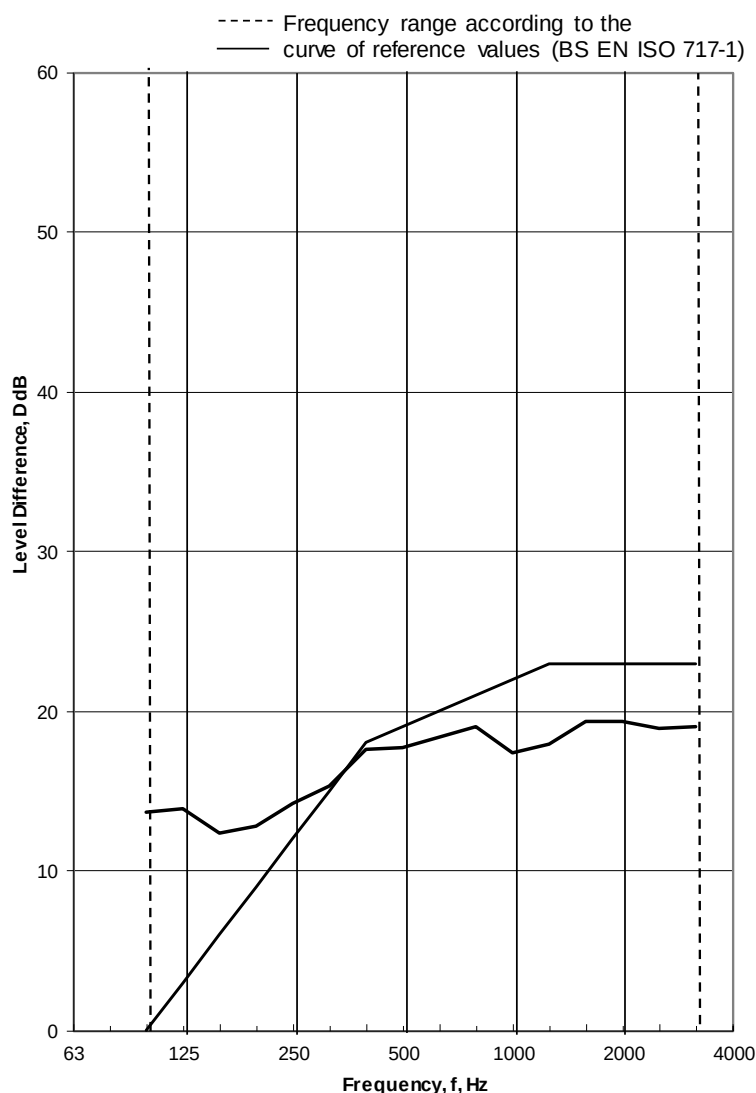
**Construction Details & Test Arrangement :**  
Large lightweight sliding door to front of unit

**Test Type :** Airborne Breakout  
**Source Room :** Inside Unit  
**Receive Area :** Front of Unit

**Equipment Details :**  
See Appendix C

| Frequency, f<br>(Hz) | D (1/3 octave)<br>dB |
|----------------------|----------------------|
| 50                   |                      |
| 63                   |                      |
| 80                   |                      |
| 100                  | 13.7                 |
| 125                  | 13.9                 |
| 160                  | 12.3                 |
| 200                  | 12.8                 |
| 250                  | 14.2                 |
| 315                  | 15.3                 |
| 400                  | 17.6                 |
| 500                  | 17.7                 |
| 630                  | 18.4                 |
| 800                  | 19.0                 |
| 1000                 | 17.4                 |
| 1250                 | 17.9                 |
| 1600                 | 19.3                 |
| 2000                 | 19.3                 |
| 2500                 | 18.9                 |
| 3150                 | 19.0                 |
| 4000                 |                      |
| 5000                 |                      |

≥ indicates maximum background correction



Rating according to BS EN ISO 717-1 :

$D_w (C; C_{tr}) = 19 (-1; -2) \text{ dB}$

Evaluation based on field measurement results obtained in one-third octave bands by an engineering method.

No. of test report : Test F

Name of test company : Aaron Moroney

Date of Test Report : 19 February 2026

## Appendix E – Environmental Noise Survey Graphs

PureGym Winnersh

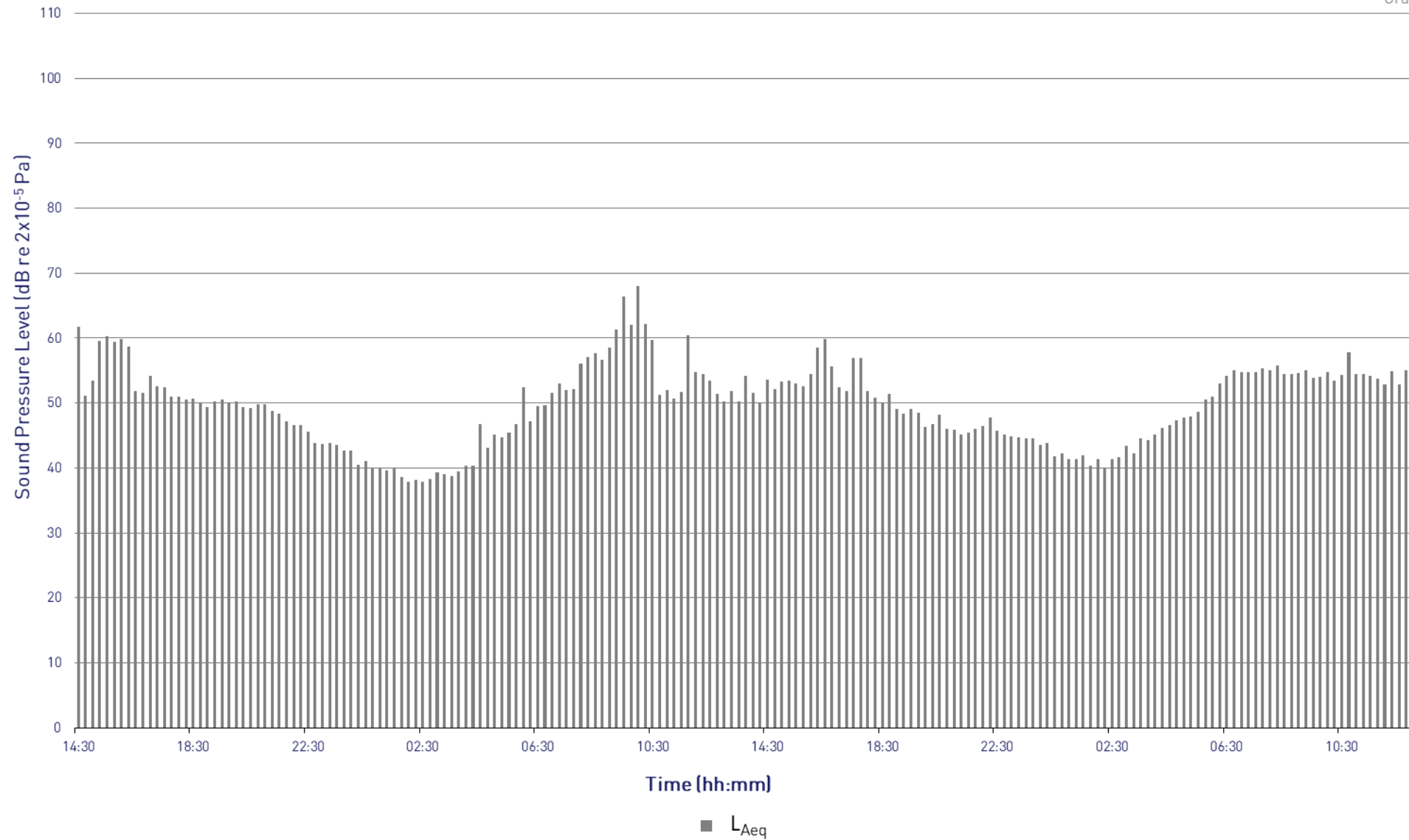
L<sub>Aeq</sub> Time History

Externally at Ground Floor Level, Rear of Unit



Project: 15174

Graph 1



PureGym Winnersh

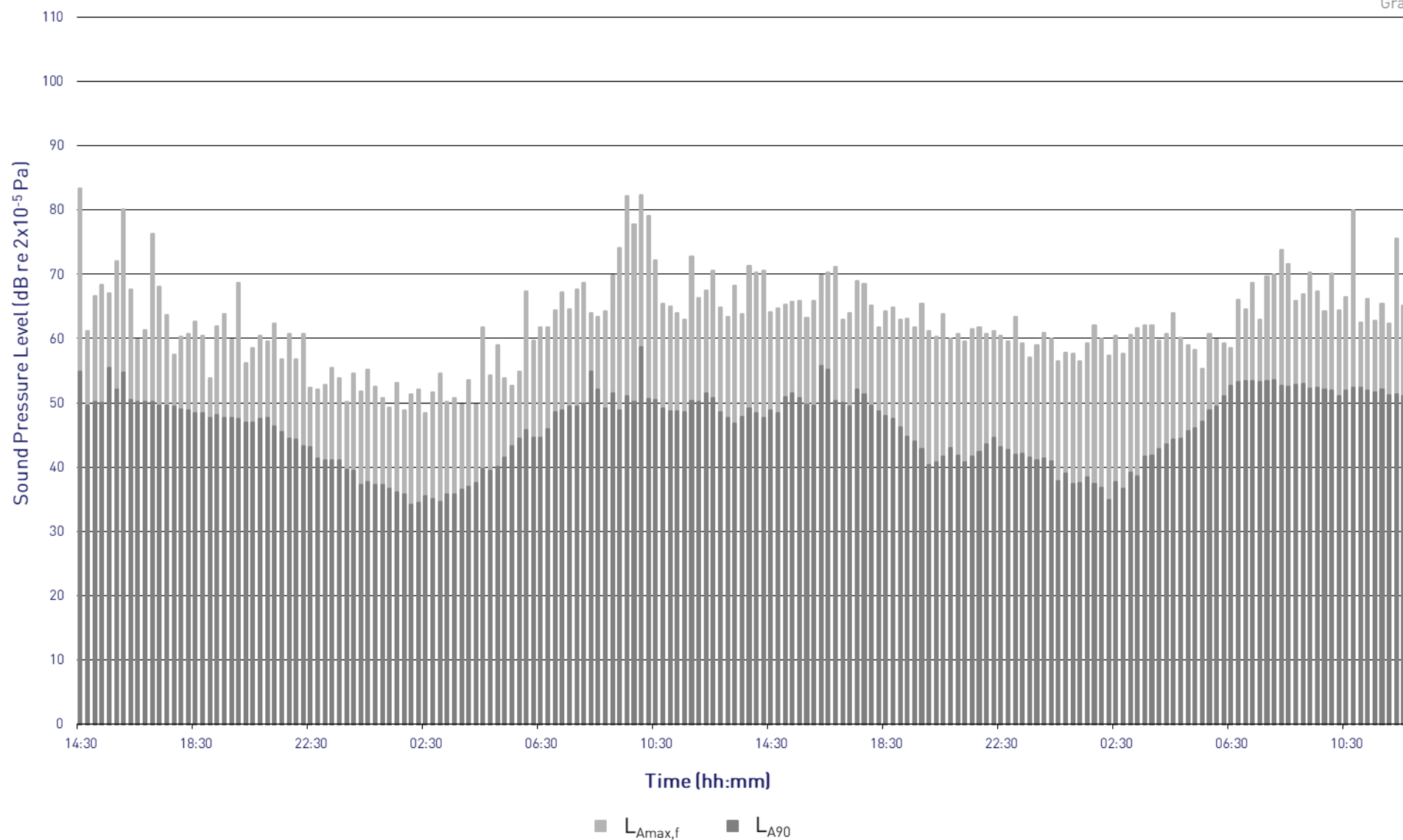
$L_{Amax,f}$  and  $L_{A90}$  Time History

Externally at Ground Floor Level, Rear of Unit



Project: 15174

Graph 2



## Appendix F – CDM Risk Review

PROJECT NAME: PureGym - Winnersh, Reading  
CONSULTANT: RBA Acoustics  
DESIGN STAGE: Feasibility

DATE 10 March 2026  
PROJECT NO 15174  
REVISION RP02.APR.2

| No.  | Identification of hazards                                                                                                                                |                                                            | Person(s) affected / at risk |            |         |                   |        | Action required at design stage                                                                                                                                                                                                                                                               | Information needed by others                                                                                                                                      |                                                                   |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------|------------|---------|-------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
|      | Activity relating to building / constructing, using (as a gym), cleaning and maintaining, altering and dismantling and demolition of a structure/ fitout | What is the hazard?                                        | Operator                     | Contractor | Cleaner | Public/<br>member | Others | Hazard elimination and risk reduction                                                                                                                                                                                                                                                         | Including: critical design assumptions, significant remaining risks, suggested work methods / sequences, other controls                                           | Residual risk still present?                                      |
|      |                                                                                                                                                          |                                                            | X                            | X          | X       | X                 | X      |                                                                                                                                                                                                                                                                                               | Included in: design documentation, pre-construction drawings etc.                                                                                                 | D- Managed Design Risk<br>R- Residual Risk<br>S- Significant Risk |
| 1.00 | GENERAL                                                                                                                                                  |                                                            |                              |            |         |                   |        |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                   |                                                                   |
| 1.01 | Mineral wool within drywalls and linings                                                                                                                 | Skin and respiratory irritation                            |                              | x          |         |                   |        |                                                                                                                                                                                                                                                                                               | Wear gloves and mask                                                                                                                                              | D                                                                 |
| 1.02 | Acoustic doors - weight                                                                                                                                  | Strain of neck, limbs or back                              |                              | x          |         |                   |        |                                                                                                                                                                                                                                                                                               | Provide sufficient manpower/ lifting gear                                                                                                                         | D                                                                 |
| 1.03 | Attenuators/ Acoustic Lagging                                                                                                                            | Strain of neck, limbs or back.                             |                              | x          |         |                   |        |                                                                                                                                                                                                                                                                                               | Provide sufficient manpower/ lifting gear                                                                                                                         | D                                                                 |
| 1.04 | Attenuators/ Acoustic Lagging                                                                                                                            | Skin & respiratory irritation                              |                              | x          |         |                   |        |                                                                                                                                                                                                                                                                                               | Wear gloves and mask                                                                                                                                              | D                                                                 |
| 1.05 | Acoustic glazing - weight                                                                                                                                | Strain of neck, limbs or back. Fall from height.           |                              | x          |         |                   |        |                                                                                                                                                                                                                                                                                               | Provide sufficient manpower, lifting gear and structural support                                                                                                  | D                                                                 |
| 1.06 | Audio Sound Levels                                                                                                                                       | Exposure of noise to Gym Staff/users                       | x                            |            |         | x                 |        | Specify limiters in audio equipment where required.                                                                                                                                                                                                                                           | Ensure staff have quieter exposure periods between classes. Meet obligations under Noise at Work Regulations. Install and maintain noise limiters where required. | D                                                                 |
|      |                                                                                                                                                          |                                                            |                              |            |         |                   |        |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                   |                                                                   |
| 2.00 | PROJECT SPECIFIC                                                                                                                                         |                                                            |                              |            |         |                   |        |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                   |                                                                   |
| 2.01 | Acoustic Mass Layer Ceilings                                                                                                                             | Risk of structural failure                                 | x                            | x          | x       | x                 |        | Structural engineers to fully design acoustic mass layer ceilings to ensure adequate loading of primary and secondary structures. Consideration given to additional loading of additional fixings to the mass layer ceiling (e.g. M&E services)                                               | Suitable supervision of install of acoustic mass layer ceilings on site to ensure ceilings are installed as per the design.                                       | D                                                                 |
| 2.02 | Acoustic Wall Linings                                                                                                                                    | Risk of structural failure / large floor to soffit heights | x                            | x          | x       | x                 |        | Architects to fully review design of acoustic wall lings to ensure they meet all performance requirements, including structural stability/floor to ceiling height limits.<br><br>Consideration given to additional loading of additional fixings to acoustic wall linings (e.g. M&E services) | Suitable supervision of install of acoustic wall linings on site to ensure ceilings are installed as per the design.                                              | D                                                                 |

|      |                                               |                                             |   |   |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                       |   |
|------|-----------------------------------------------|---------------------------------------------|---|---|---|---|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 2.03 | Acoustic Floating Floors                      | Loading capacity of structural floors       | x | x | x | x |  | <p>Structural engineers to fully review loading capacity of structural floors to ensure any specified acoustic floating floors, particularly concrete floors, are able to be accommodated.</p> <p>Structural engineers are to raise issues to the design team as to the capacity of the primary structure to accommodate any specified heavy weight acoustic floating floors.</p> | Suitable supervision of install of acoustic floating floors on site to ensure they are installed as per the design and manufacturer's specifications. | D |
| 2.04 | Acoustic Flooring Materials                   | Loading capacity of structural floors       | x | x | x | x |  | <p>Structural engineers to fully review loading capacity of structural floors to ensure any specified acoustic flooring materials</p> <p>Structural engineers are to raise issues to the design team as to the capacity of the primary structure to accommodate specified acoustic flooring materials</p>                                                                         | Suitable supervision of install of acoustic floating floors on site to ensure they are installed as per the design and manufacturer's specifications. | D |
|      | Acoustic Floating Floors & Flooring Materials | Level differences between various Gym areas | x | x | x | x |  | <p>Architects are to review level changes between various Gym areas and to provide suitable ramping and stepping as necessary to avoid trip hazards and to meet regulatory requirements such as Disability Discrimination Act (DDA)</p>                                                                                                                                           | Suitable supervision of install of acoustic floating floors on site to ensure they are installed as per the design and manufacturer's specifications. | D |

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