



**Independent Acoustic  
Consultancy Practice**

# **BB93 Environmental Noise Survey**

**New Teaching Block, YGG Tregelles  
Neath**

7857/ENS1\_Rev1

## **BB93 Environmental Noise Survey**

**Project:** **New Teaching Block, YGG Tregelos**

**Site Address:** St Johns Terrace  
Neath Abbey  
Neath  
SA10 7ND

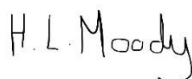
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## 1. INTRODUCTION

We understand a new teaching block is proposed at YGG Treges, St Johns Terrace, Neath Abbey, Neath, SA10 7ND.

This report has therefore been commissioned to assess existing ambient and background noise levels impinging on the site from local sources.

Survey results are used to;

- a) Assess the feasibility of utilising natural ventilation strategies
- b) Assess the façade sound insulation requirements of the external building fabric
- c) Set atmospheric plant noise limits at nearest sound sensitive receivers

### 1.1 Suitably Qualified Acoustician

This report has been checked by Meirion Townsend who is considered to be “suitably qualified” for the purposes of a BREEAM assessment.

Meirion Townsend graduated with a BSc(Hons) in Audio Technology from the University of Salford in 2007.

He is a Corporate Member of the Institute of Acoustics (MIOA) and has over 18 years' experience in acoustic consultancy, including BREEAM assessments for schools, healthcare facilities, residential and office developments.

Hunter Acoustics are a member company of the Association of Noise Consultants (ANC) and are on their registration program for pre-completion sound insulation testing.

## 2. CRITERIA

### 2.1 Planning Policy Wales

The Welsh Government's Planning Policy Wales (Edition 12) dated February 2024, states the following:

- “6.7.19 The health imperative of good air quality and appropriate soundscapes in contributing to the overall character and quality of places and the health and well-being of people and wildlife should be fully recognised. It will not be appropriate to locate sensitive uses, such as hospitals, schools, care homes and housing adjacent to busy roads or other transport routes, where there are no connectivity benefits to be gained and where health and amenity impacts associated with increased exposure of people to pollution will be unacceptable. Whilst some uses may be appropriate with the aid of good design air quality and soundscape considerations can be overriding factors, especially for sensitive uses, if they cannot be adequately mitigated and impacts minimised.*
- 6.7.20 Where sensitive developments need to be located close to existing transportation infrastructure for sustainable movement and access they should be designed, as far as practicable, to limit harmful substances and noise levels within and around those developments both now and in the future. This may include employing the principles of good acoustic design and the inclusion of active travel or travel management measures as part of development proposals. Such development, however, should preferably be located away from existing sources of significant noise, which may include aircraft noise or roads, particularly new roads or those with programmed route improvements.*
- 6.7.21 Regard should be paid to current air quality and noise levels and the quality of the existing soundscape and account taken of any relevant local air quality action plan, noise action plan and/or local or regional air quality strategy as part of development strategies and proposals in development plans and before determining planning applications.*

### 2.2 Neath Port Talbot CBC Local Development Plan (2011-2026)

Policy EN8 Pollution and Land Stability states:

*“5.3.46 In relation to noise, potentially noisy proposals should not be located close to sensitive uses (such as hospitals, schools and housing) and new noise-sensitive developments should not be located near to existing noisy uses (including industry and existing or proposed transport infrastructure) unless it can be shown that adverse effects can be dealt with through mitigation measures incorporated into the design. Where noise levels are likely to be a significant issue, developers may be required to provide information to show that no nuisance is likely to be caused through increased noise*

*levels at sensitive locations if the development proceeds. Policy EN10 sets out policy relating to designated Quiet Areas.”*

## **2.3 Technical Advice Note (Wales) 11**

*“A6. Although developments such as offices, hospitals and schools will contain buildings and activities that are noise-sensitive, such developments are likely to occupy sizeable sites and contain a proportion of buildings and activities which are less noise-sensitive.*

*The NEC principle cannot therefore be applied sensibly to such developments and it will be more appropriate to refer to specific guidance on internal noise standards in respect of each activity. General information can be found in BS 8233: 1987.”*

It is therefore proposed to refer to guidance in Building Bulletin 93 as referenced in Building Regulations Approved Document Part E below.

## **2.4 Building Regulations Approved Document Part E**

Requirement E4 from Part E of Schedule 1 to the Building Regulations 2010 (as amended by Statutory Instrument, SI 2002/2871) states:

*“Each room or other space in a school building shall be designed and constructed in such a way that it has the acoustic conditions and the insulation against disturbance by noise appropriate to its intended use.”*

Approved Document E in support of the Building Regulations gives the following guidance:

*“In the Secretary of State’s view the normal way of satisfying Requirement E4 will be to meet the values for sound insulation, reverberation time and internal ambient noise which are given in section 1 of Building Bulletin 93 ‘The Acoustic Design of Schools’, produced by DfES.”*

## **2.5 BREEAM UK New Construction**

We understand the scheme is to be assessed under BREEAM UK New Construction ‘Non-domestic Buildings (Wales)’.

The following acoustic credits are available as outlined in Technical Manual SD5078 2.0 2018:

### 2.5.1 BREEAM Hea 05

BREEAM Hea 05 defines criteria for the acoustic principles of:

- Sound insulation
- Indoor ambient noise level
- Room acoustics

For 'Education Buildings', Table 5.14 of Hea 05 covers three available credits;

**Table 2.1 – BREEAM Hea 05 for Education Buildings**

| Education buildings (three credits)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First credit – Sound insulation             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Criteria                                    | Achieve the performance standards set out in Section 1 of Building Bulletin 93: Acoustic design of schools: performance standards, February 2015 (BB93) relating to airborne sound insulation between spaces and impact sound insulation of floors.                                                                                                                                                                                                                                                                                                                                                     |
| Testing requirement                         | A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of schools.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Second credit – Indoor ambient noise levels |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Criteria                                    | Achieve the indoor ambient noise level standards set out within Section 1 of BB93 for all room types.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Testing requirement                         | A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of schools.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Third credit – Indoor ambient noise levels  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Criteria                                    | <p>Room acoustics (Control of reverberation, sound absorption and speech transmission index (STI)):</p> <p><b>Teaching and study spaces</b> achieve the requirements relating to reverberation time for teaching and study spaces set out within Section 1 of BB93.</p> <p><b>Open plan teaching spaces</b> achieve the performance requirements relating to reverberation time and STI set out within Section 1 of BB93.</p> <p><b>Corridor and stairwells</b>, for those that give direct access to teaching and study spaces, achieve the performance requirements relating to sound absorption.</p> |
| Testing requirement                         | <p><b>Teaching and study spaces:</b> A programme of acoustic measurements is carried out by a compliant test body in accordance with the requirements of BB93 and ANC Good Practice Guide, Acoustic testing of schools.</p> <p><b>Open plan teaching spaces:</b> A programme of acoustic measurements of reverberation time is carried out within open plan teaching spaces. The measurement is carried out by a compliant test body in accordance with the requirements of BB93 and ANC Good</p>                                                                                                       |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Practice Guide, Acoustic testing of schools. STI testing is not required. To demonstrate compliance the SQA shall undertake measurements of reverberation times to compare against the STI model. The SQA should provide a report confirming that the surface finishes and distribution of sound absorption within the completed space is in line with the design intent implemented within the STI model. Where significant changes or differences are observed, the SQA shall re-model the space accordingly to demonstrate that the STI measurement is met by the completed spaces.</p> <p><b>Corridors and stairwells:</b> Installation of a specification compliant with the BB93 criteria demonstrates compliance. A site inspection by the developer or SQA is required to confirm that a compliant specification has been installed.</p> |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 2.5.2 BREEAM Pol 05

BREEAM Pol 05 aims to reduce the likelihood of noise arising from fixed installations on the new development affecting nearby sound sensitive receivers.

One credit is available, when assessed against the following criteria;

“

- 1 *There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site.*

OR

- 2 *Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014 is commissioned. Noise levels must be measured or determined for:*

#### *2.a Existing background noise levels:*

*2.a.i at the nearest or most exposed noise-sensitive development to the proposed assessed site*

*2.a.ii including existing plant on a building, where the assessed development is an extension to the building*

#### *2.b Noise rating level from the assessed building.*

- 3 *The noise impact assessment must be carried out by a suitably qualified acoustic consultant.*

- 4 *The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, must be at least 5dB lower than the background noise throughout the day and night.*
- 5 *If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion."*

## 2.6 Building Bulletin 93

### 2.6.1 BB93 Internal Ambient Noise Level Criteria

Table 1 of BB93 provides maximum internal ambient noise levels (IANL) for each room type within the building.

Table 2.2 below shows BB93 IANL criteria relevant to proposed areas on this project.

**Table 2.2 – Indoor Ambient Noise Level Criteria (BB93)**

| Area type                                                                                                                 | Upper limit for the indoor ambient noise level $L_{Aeq,30mins}$ dB |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|                                                                                                                           | New Build                                                          |
| <i>Primary school:</i> classroom, class base, general teaching area, small group room                                     | 35                                                                 |
| Drama studio, assembly hall, multi-purpose hall (drama, PE, audio/visual presentations, assembly, occasional music)       | 35                                                                 |
| Atrium, circulation space not intended for teaching and learning                                                          | 45                                                                 |
| <i>Administration and ancillary spaces:</i><br>Office, staff room<br>Corridor, stairwell, coats and locker area<br>Toilet | 40<br>45<br>50                                                     |

For temporary classrooms, BB93 states the following:

*"New school buildings and extensions with a site life of more than 28 days should comply with all applicable Building Regulations including Requirement E4.*

...

*Additional guidance on prefabricated buildings is given in Clause 0.6 of Approved Document E. Prefabricated buildings include, for example, a building created by dismantling, transporting and re-erecting sub-assemblies on the same premises or*

*another premises. In these circumstances by virtue of the School Premises Regulations, the minimum standards for refurbishment and conversion of existing buildings apply.”*

For primary school classrooms, the upper limit for the indoor ambient noise level for refurbishments is 40dB  $L_{Aeq,30mins}$ .

### 2.6.2 Regular Discrete Events

BB93 states that; *“In order to protect students from regular discrete noise events, eg, aircraft or trains, indoor ambient noise levels should not exceed 60 dB  $L_{A1, 30mins}$ . This is achieved by default for spaces with IANLs up to 40 dB  $L_{Aeq, 30min}$ , but requires assessment in spaces with higher IANL limits, eg, 45 and 50 dB.”*

### 2.6.3 BB93 Tolerances on Internal Ambient Noise Level Criteria

The tolerances on the IANL limits in Table 2.2 for different types of ventilation system under different operating conditions are summarised in Table 2.3 below.

**Table 2.3 – Ventilation Condition, System Type & Associated IANL Tolerance**

| Condition                                                                                                                                                                                            | Ventilation system        | Noise level limit                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------|
| Normal – ventilation for normal teaching and learning activities                                                                                                                                     | Mechanical                | Table 2.2 value                                     |
|                                                                                                                                                                                                      | Natural                   | Table 2.2 value +5dB *                              |
|                                                                                                                                                                                                      | Hybrid                    | Mechanical system noise:<br>Table 2.2 value         |
|                                                                                                                                                                                                      |                           | Total noise level:<br>Table 2.2 value +5dB          |
| Summertime - ventilation under local control of teacher to prevent overheating – allowable during the hottest 200 hrs of the year                                                                    | Mechanical                | Table 2.2 value +5dB *                              |
|                                                                                                                                                                                                      | Natural or Hybrid         | ≤55dB                                               |
| Intermittent boost – ventilation under local control of teacher for dilution of fumes during practical activities as in practical spaces for science, art, food technology and design and technology | Mechanical                | Table 2.2 value +5dB *                              |
|                                                                                                                                                                                                      | Natural                   | ≤55dB                                               |
| Process - extract can be automatic ventilation for safety and/or under local control of teacher                                                                                                      | Mechanical and/or natural | Refer to IoA/ANC guide for operational noise levels |

\* The +5 dB does not apply to teaching and learning spaces where the Table 2.2 IANL is greater than or equal to 45dB.

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

British Standard 4142:2014+A1:2019 “Methods for rating and assessing industrial and commercial sound”, provides current guidance for the assessment of industrial noise affecting residential receivers.

This standard describes a rating method comparing  $L_{Aeq}$  noise levels from the industrial source with pre-existing background  $L_{A90}$  levels at the residential receiver. It advises at a difference (industrial noise - background) of:

- +10dB or higher, likely to be an indication of a significant adverse impact, depending on the context.
- A difference of + 5dB, likely to be an indication of an adverse impact, depending on the context.
- 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.

A sliding scale of penalties can be applied to industrial/commercial sound levels which have acoustically distinguishing characteristics, including tonality, impulsivity and intermittency.

***Tonality*** – A penalty of 2dB for a tone which is just perceptible at the noise receptor, 4dB where it is clearly perceptible, and 6dB where it is highly perceptible.

***Impulsivity*** – A penalty of 3dB for impulsivity which is just perceptible at the noise receptor, 6dB where it clearly perceptible, and 9dB where it is highly perceptible.

***Other sound characteristics*** – Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied

***Intermittency*** – If intermittency is readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied.

### 3. ENVIRONMENTAL NOISE SURVEY

#### 3.1 Procedures

##### 3.1.1 Continuous Monitoring

An environmental noise survey was carried out between 1200hrs on Tuesday, 03 February 2026 to 1125hrs on Wednesday, 04 February 2026 at positions A and B.

Data including  $L_{A01}$ ,  $L_{Aeq}$  and background  $L_{A90}$  was logged at 30 minute intervals over the monitoring period, along with continuous audio and 100ms data to allow source identification and further detailed analysis of results if required.

*Note: The train line was closed throughout the continuous monitoring period due to maintenance. Additional sample measurements were therefore undertaken to determine noise levels from train pass-bys at a later date (see Section 3.1.2).*

**Figure 3.1 – Site Plan Showing Monitoring Locations**



Site plan in Figure 3.1 above shows the development site and monitoring positions used, namely:

**Table 3.1 – Monitoring Location Details**

| Position | Description                                                                                        |
|----------|----------------------------------------------------------------------------------------------------|
| A        | Centre of northern boundary of school site, representative of northern façade of proposed building |
| B        | Northwestern corner of school site, representative of nearest sound sensitive receivers            |

*Note: All microphone positions approximately 2m above local ground level.*

### 3.1.2 Sample Measurements

Additional sample measurements were taken on Wednesday, 04 February 2026 and Wednesday, 11 February 2026. Parameters recorded include  $L_{A01}$  and  $L_{eq}$  levels including 1/3 octave band spectra.

Site plan in Figure 3.1 shows the sample measurement positions used, namely:

**Table 3.2 – Sample Measurement Location Details**

| Position | Description                                                                     |
|----------|---------------------------------------------------------------------------------|
| 1        | Southeastern corner of proposed building, 1.5m above local ground level         |
| 2        | Southern façade of proposed temporary staff room, 1.5m above local ground level |
| 3        | Northern façade of proposed building, 1.5m and 4.5m above local ground level    |
| 4        | Southern façade of proposed temporary classroom, 1.5m above local ground level  |

### 3.2 Meteorological Conditions

Approximate weather conditions are shown in time history graphs in Figure B.1 and Figure B.2 of Appendix B.

To summarise, the weather conditions during the monitoring period were mostly dry with a breeze.

### 3.3 Measurement Equipment

The following measurement equipment was used during the surveys:

**Table 3.3 – Noise Monitoring Equipment List**

| Make         | Description                            | Model  | Serial Number | Last Calibrated  | Certificate No.    |
|--------------|----------------------------------------|--------|---------------|------------------|--------------------|
| NTi          | Type 1 - Sound Level Meter             | XL2-TA | A2A-08723-E0  | 11 June 2025     | UK-25-074          |
|              | Preamplifier                           | MA220  | 1820          | 11 June 2025     | UK-25-074          |
|              | Filters                                | XL2-TA | A2A-08723-E0  | 11 June 2025     | UK-25-074          |
|              | Microphone Capsule                     | MC230  | 9381          | 11 June 2025     | UK-25-074          |
| NTi          | Type 1 - Sound Level Meter             | XL2-TA | A2A-10021-E0  | 28 August 2025   | UK-25-112          |
|              | Preamplifier                           | MA220  | 5435          | 28 August 2025   | UK-25-112          |
|              | Microphone Capsule                     | MC230  | 8547          | 28 August 2025   | UK-25-112          |
| NTi          | Type 1 - Sound Level Meter             | XL2-TA | A2A-13022-E0  | 26 November 2025 | UK-25-150          |
|              | Preamplifier                           | MA220  | 13634         | 26 November 2025 | UK-25-150          |
|              | Microphone Capsule                     | MC230  | A14127        | 26 November 2025 | UK-25-150          |
| Larson Davis | Calibrator (94.00dB / 114.03dB @ 1kHz) | CAL200 | 19047         | 29 August 2025   | 45898-19047-CAL200 |

Measurement systems were calibrated before and after the surveys and no variation occurred.

*Note: Copies of traceable calibration certificates for all equipment are available upon request.*

### 3.4 Results

Time history graphs in Figure B.3 and Figure B.4 of Appendix B show  $L_{Aeq}$ ,  $L_{A01}$  and  $L_{A90}$  sound pressure levels measured at positions A and B respectively.

Results of measurements are shown in Table 3.4 below.

**Table 3.4 – Noise Measurement Results**

| Position | Height | Date & Time |       | Duration (hh:mm) | $L_{Aeq}$ (dB) | $L_{A01}$ (dB) | $L_{A90}$ (dB) |
|----------|--------|-------------|-------|------------------|----------------|----------------|----------------|
| A        | 1.5m   | 03/02/2026  | 12:00 | 00:30            | 54             | 59             | 52             |
| A        | 1.5m   | 03/02/2026  | 12:30 | 00:30            | 53             | 58             | 51             |
| A        | 1.5m   | 03/02/2026  | 13:00 | 00:30            | 54             | 62             | 50             |
| A        | 1.5m   | 03/02/2026  | 13:30 | 00:30            | 51             | 55             | 49             |
| A        | 1.5m   | 03/02/2026  | 14:00 | 00:30            | 51             | 55             | 49             |
| A        | 1.5m   | 03/02/2026  | 14:30 | 00:30            | 51             | 58             | 49             |
| A        | 1.5m   | 03/02/2026  | 15:00 | 00:30            | 53             | 58             | 49             |
| A        | 1.5m   | 03/02/2026  | 15:30 | 00:30            | 51             | 55             | 49             |
| A        | 1.5m   | 04/02/2026  | 08:00 | 00:30            | 54             | 62             | 51             |
| A        | 1.5m   | 04/02/2026  | 08:30 | 00:30            | 55             | 59             | 53             |
| A        | 1.5m   | 04/02/2026  | 09:00 | 00:30            | 54             | 59             | 51             |
| A        | 1.5m   | 04/02/2026  | 09:30 | 00:30            | 56             | 62             | 52             |
| A        | 1.5m   | 04/02/2026  | 10:00 | 00:30            | 55             | 60             | 52             |
| A        | 1.5m   | 04/02/2026  | 10:30 | 00:30            | 54             | 59             | 52             |
| A        | 1.5m   | 04/02/2026  | 11:00 | 00:25            | 55             | 59             | 52             |
| 1*       | 1.5m   | 04/02/2026  | 10:10 | 00:30            | 63             | 69             | 58             |
| 2        | 1.5m   | 04/02/2026  | 10:44 | 00:30            | 55             | 58             | 53             |
| 3        | 4.5m   | 11/02/2026  | 12:30 | 00:30            | 55             | 58             | 53             |
| 3        | 4.5m   | 11/02/2026  | 13:00 | 00:28            | 55             | 58             | 53             |
| 3        | 1.5m   | 11/02/2026  | 13:30 | 00:18            | 53             | 56             | 51             |
| 4*       | 1.5m   | 11/02/2026  | 14:00 | 00:14            | 65             | 71             | 58             |

*\*Measured levels at positions 1 and 4 include children playing.*

Octave band  $L_{eq}$  spectra are included in Figure B.5 of Appendix B.

The following background  $L_{A90}$  sound levels have been determined at Position B for setting atmospheric plant noise limits:

**Table 3.5 – Daytime Background Sound Levels for Setting Plant Noise Limits**

| Period       | $L_{A90}$<br>(dB) |
|--------------|-------------------|
| 0500-0700hrs | 44                |
| 0700-1700hrs | 48                |

The ambient noise climate at all positions was controlled by road traffic noise.

Train pass-bys were audible, with  $L_{Amax,F}$  levels in the range of 60-67dB measured at Position 3.

## 4. NATURAL VENTILATION FEASIBILITY ASSESSMENT

### 4.1 Feasibility Review

Based on survey results, we have carried out a feasibility review of utilising a natural ventilation strategy for the scheme.

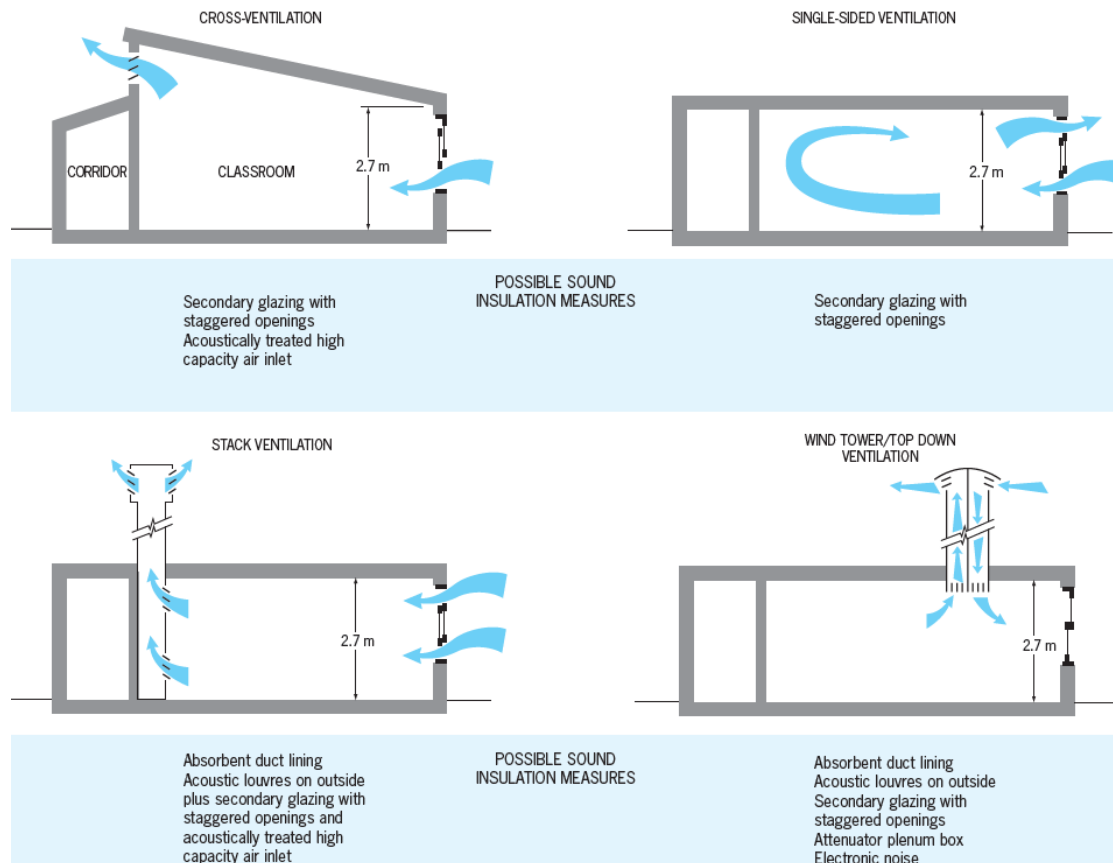
BB93 states “Where external ambient free field noise levels at the facade expressed as the  $L_{Aeq,30mins}$ , do not exceed the IANL figures given in Table 1 (see Table 2.2 of this report) by more than 16 dB for single sided ventilated spaces and 20 dB for cross ventilated or roof ventilated spaces, the criteria for natural ventilation can usually be achieved. However, the ventilation strategy still requires appropriate design of façade openings, height differences between low and high level openings, corridor transfer vents/stacks, etc. to limit the required façade open areas appropriately.”

For general teaching spaces in the proposed building, an IANL criteria of 35dB applies. For the temporary classroom, an IANL criteria of 40dB applies.

## 4.2 Ventilation Strategy

Acoustics of Schools – a design guide refers to possible types of natural ventilation as seen in Figure 4.1 below.

**Figure 4.1 – Possible Types of Natural Ventilation**



An assessment of the proposed ventilation elements shall be carried out at the detailed design stage by a Suitably Qualified Acoustician (SQA) however at this stage we can advise the following:

### 4.2.1 Outdoor Classroom

With ambient noise levels around 63-65dB  $L_{Aeq,30mins}$  for general teaching spaces a natural ventilation strategy is not indicated feasible and a mechanical or hybrid solution should be sought.

A natural ventilation strategy may work if the classroom opening windows were on a façade facing away from the road, towards the existing school building.

### 4.2.2 Proposed New Building

With ambient noise levels in the range 51-56dB  $L_{Aeq,30mins}$  for general teaching spaces a natural ventilation strategy is indicated feasible.

### 4.3 Overheating

BB93 states; “Natural, mechanical or hybrid ventilation systems may be used to improve thermal comfort in summer at the expense of higher indoor ambient noise levels. The normal ventilation IANL can be exceeded during the hottest 200 hours in peak summertime conditions and the design should show that IANLs, defined in table 3 can be met under these conditions as well as under normal operation. The ventilation must be under the local control of the teacher so that the noise level can be reduced to normal levels when needed. This does not apply to classrooms intended specifically for students with special hearing and communication needs, or to speech therapy rooms.

The peak summertime condition is defined as the 200 hottest hours that occur using the design summer year (DSY) weather file during normal daily school operating hours including the summer holiday period. Thermal modelling and assessment of acoustic performance should be carried out as if the school were occupied through the summer holiday period. This corresponds to a much lower number of hours during normal term time (equivalent to typically 40 teaching hours in a school year) as most of the hottest hours occur during the holiday period.”

## 5. PLANT NOISE LIMITS

At this stage, based on results of daytime noise monitoring at Position B, the following plant rating limits are proposed for services plant at the nearest sound sensitive receivers (SSRs), set in accordance with BREEAM Pol 05 (see Section 2.5.2 - rating level 5dB below background).

**Table 5.1 – Proposed Plant Rating Limits at Nearest SSRs**

| Period     |                 | Plant Rating Limits<br>$L_{Ar,Tr}$<br>(dB) |
|------------|-----------------|--------------------------------------------|
| Daytime    | (0700-1700hrs)  | 43                                         |
| Night-time | (0500-0700hrs)* | 39                                         |

\* We understand that services plant may turn on in the early hours of the morning

The noise rating level of the proposed plant should be assessed in accordance with BS 4142:2014 by a suitably qualified acoustic consultant to ensure the above criteria are met. These criteria require corrections for tonality, impulsivity and intermittency to be included in the analysis.

These criteria are to apply at the closest sound sensitive receivers (including existing school buildings) with all plant operating normally.

These proposed limits shall be confirmed acceptable with the Local Planning Authority/Environmental Health Officer prior to any orders being placed.

*Note: Services plant shall also be designed such that BB93 internal services criteria are met within the proposed development.*

## 6. CONCLUSION

An environmental noise assessment has been carried out for the proposed new teaching block at YGG Treges, St Johns Terrace, Neath Abbey, Neath, SA10 7ND.

Noise surveys have been carried out across the site. Road traffic is indicated to control the existing ambient noise climate.

For the outdoor classroom, the assessment concludes a natural ventilation strategy may work if the classroom opening windows were on a façade facing away from the road, towards the existing school building however.

In the proposed main new building, a natural ventilation strategy is indicated feasible.

Atmospheric plant noise limits have been set in accordance with BREEAM Pol 05 based on measured background sound levels. These limits shall be confirmed acceptable with the Local Planning Authority / Environmental Health Officer prior to any orders being placed.

Overall, noise levels at the site are indicated to be easily controlled through good acoustic design in order to achieve internal noise criteria within teaching spaces in line with Building Bulletin 93.

## APPENDIX A - ACOUSTIC TERMINOLOGY

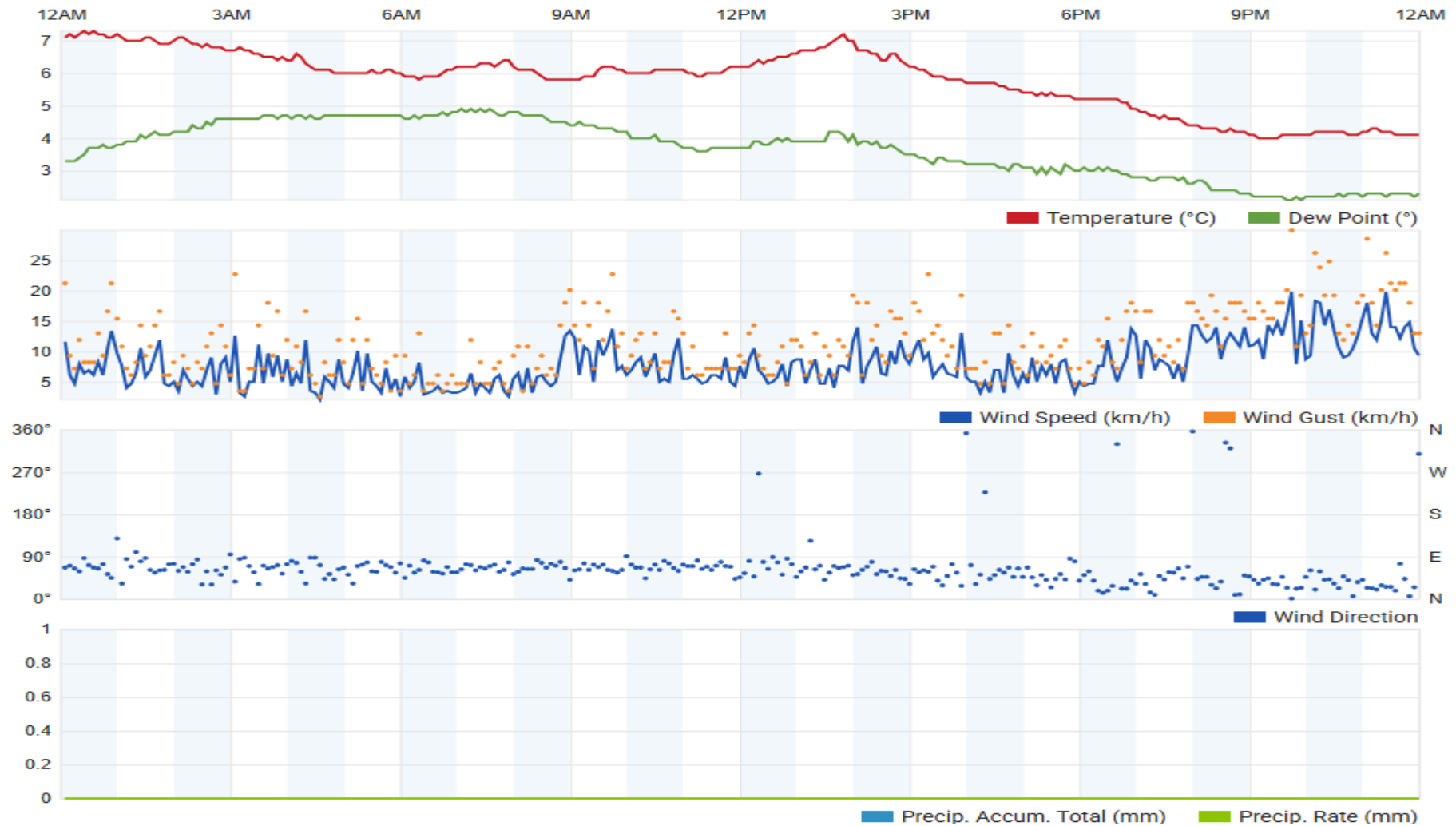
Human response to noise depends on a number of factors including loudness, frequency content and variations in level with time. Various frequency weightings and statistical indices have been developed in order to objectively quantify 'annoyance'.

The following units have been used in this report:

|             |                                                                                                                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dB(A)       | The sound pressure level A-weighted to correspond with the frequency response of the human ear and therefore a persons' subjective response to frequency content.                                             |
| $L_{eq}$    | The equivalent continuous sound level is a notional steady state level which over a quoted time period would have the same acoustic energy content as the actual fluctuating noise measured over that period. |
| $L_{max}$   | The highest instantaneous sound level recorded during the measurement period.                                                                                                                                 |
| $L_{01}$    | The sound level which is exceeded for 1% of the measurement period.                                                                                                                                           |
| $L_{10}$    | The sound level which is exceeded for 10% of the measurement period. i.e. The level exceeded for 6 minutes of a 1 hour measurement.                                                                           |
| $L_{90}$    | The sound level which is exceeded for 90% of the measurement period. i.e. The level exceeded for 54 minutes of a 1 hour measurement (used as a measure of background noise).                                  |
| $L_{Ar,Tr}$ | The 'rating' level, as described in BS 4142:2014 – the specific noise plus any adjustment for the characteristic features of the noise.                                                                       |
| SSR         | Sound sensitive receiver                                                                                                                                                                                      |

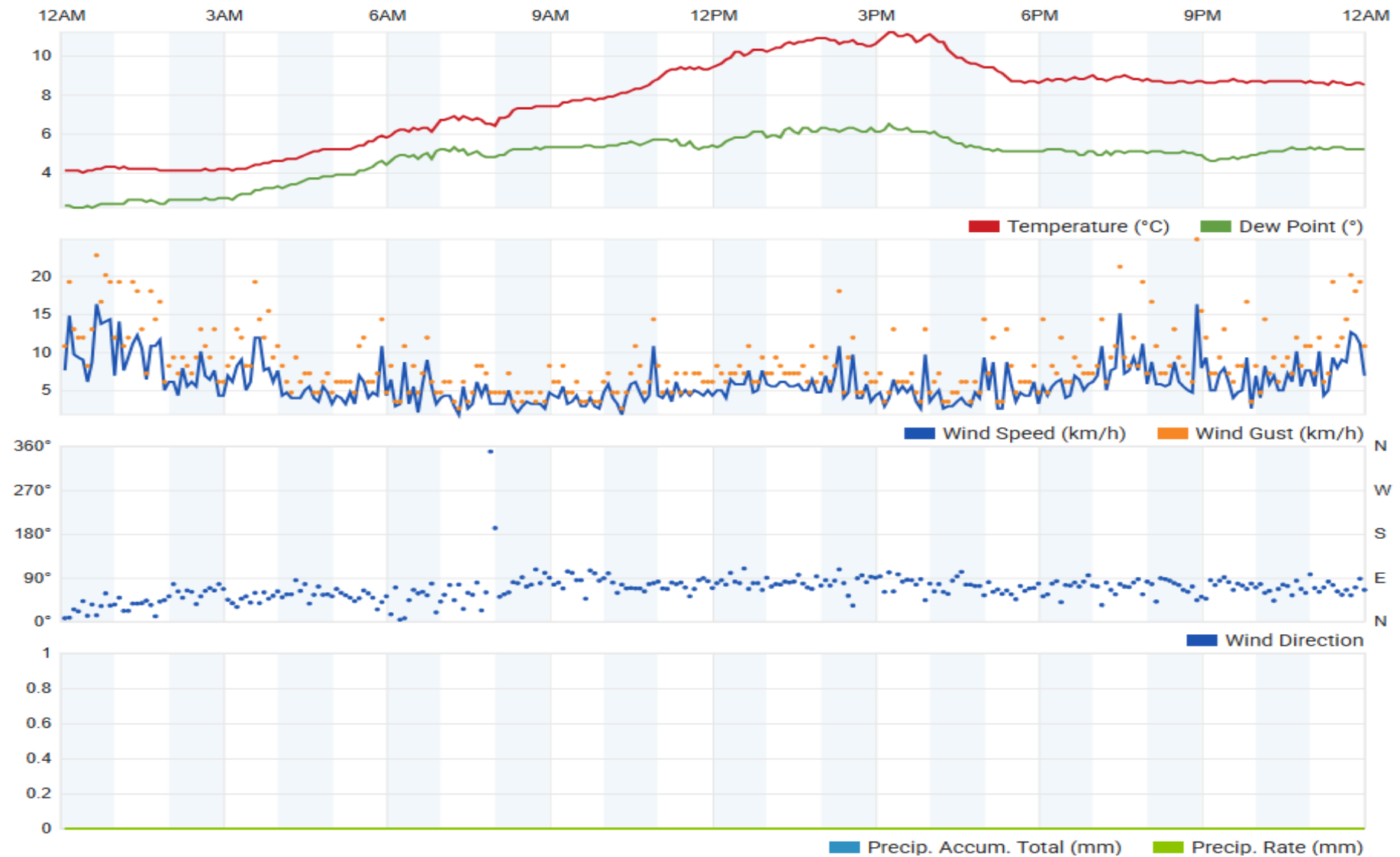
## APPENDIX B - DIAGRAMS, GRAPHS AND TABLES

Figure B.1 – Approximate Weather History for Tuesday, 03 February 2026



Note: Taken from [www.wunderground.com](http://www.wunderground.com) - weather station INEATH25 located in Neath [Elev 44 m, 51.67 °N, 3.78 °W]

**Figure B.2 – Approximate Weather History for Wednesday, 04 February 2026**



Note: Taken from [www.wunderground.com](http://www.wunderground.com) - weather station INEATH25 located in Neath [Elev 44 m, 51.67 °N, 3.78 °W]

**Figure B.3 – Time History at Position A**

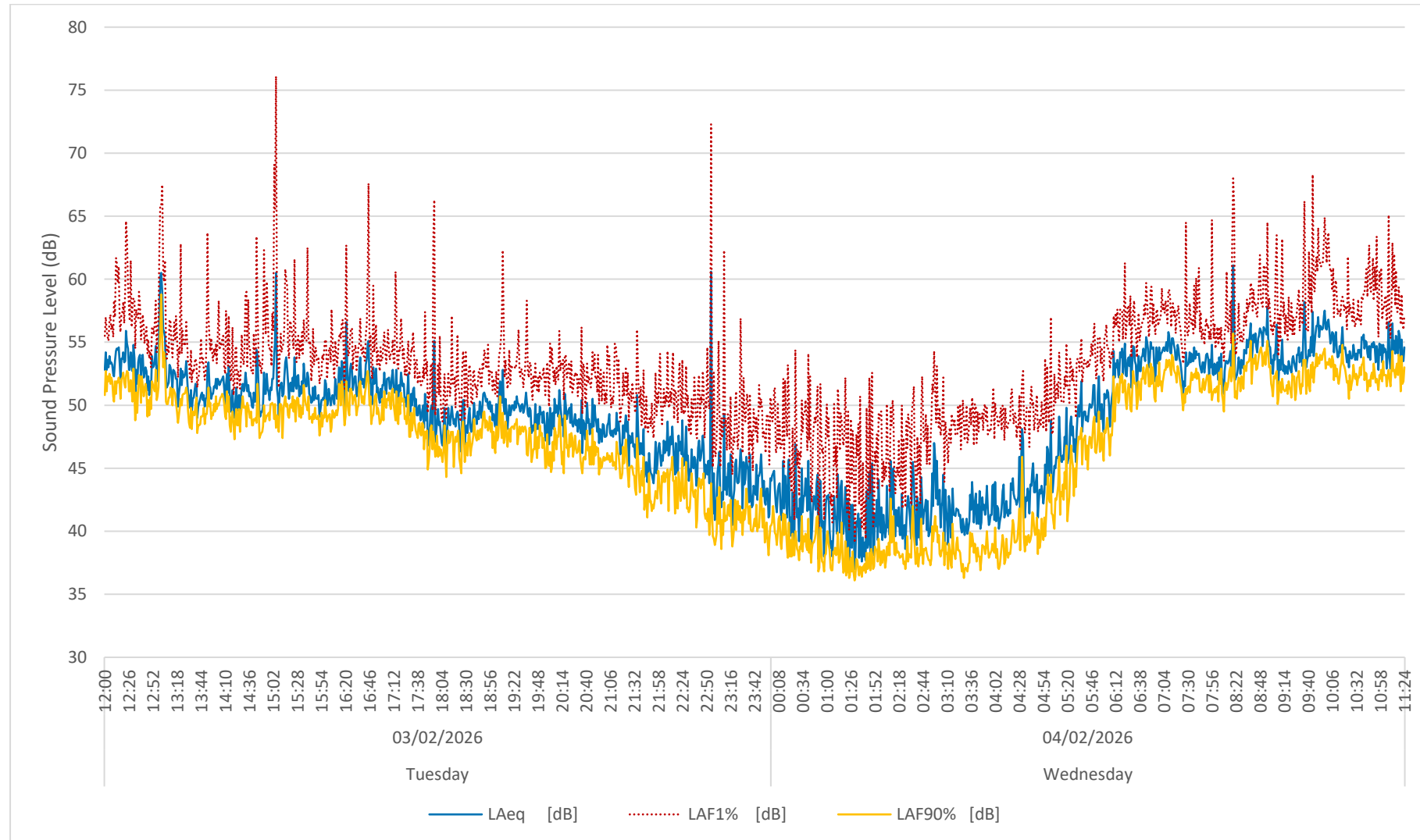


**Figure B.4 – Time History at Position B**

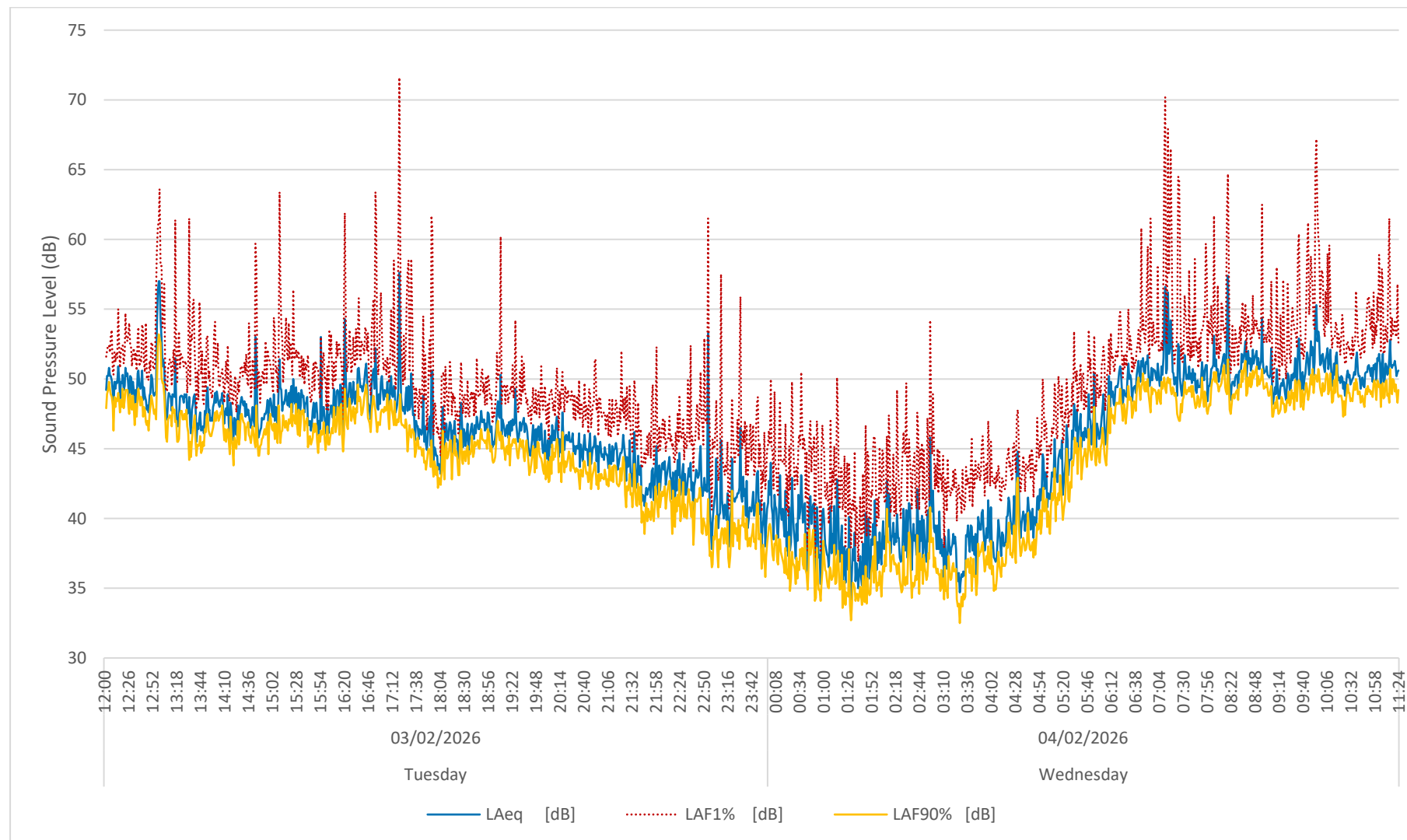
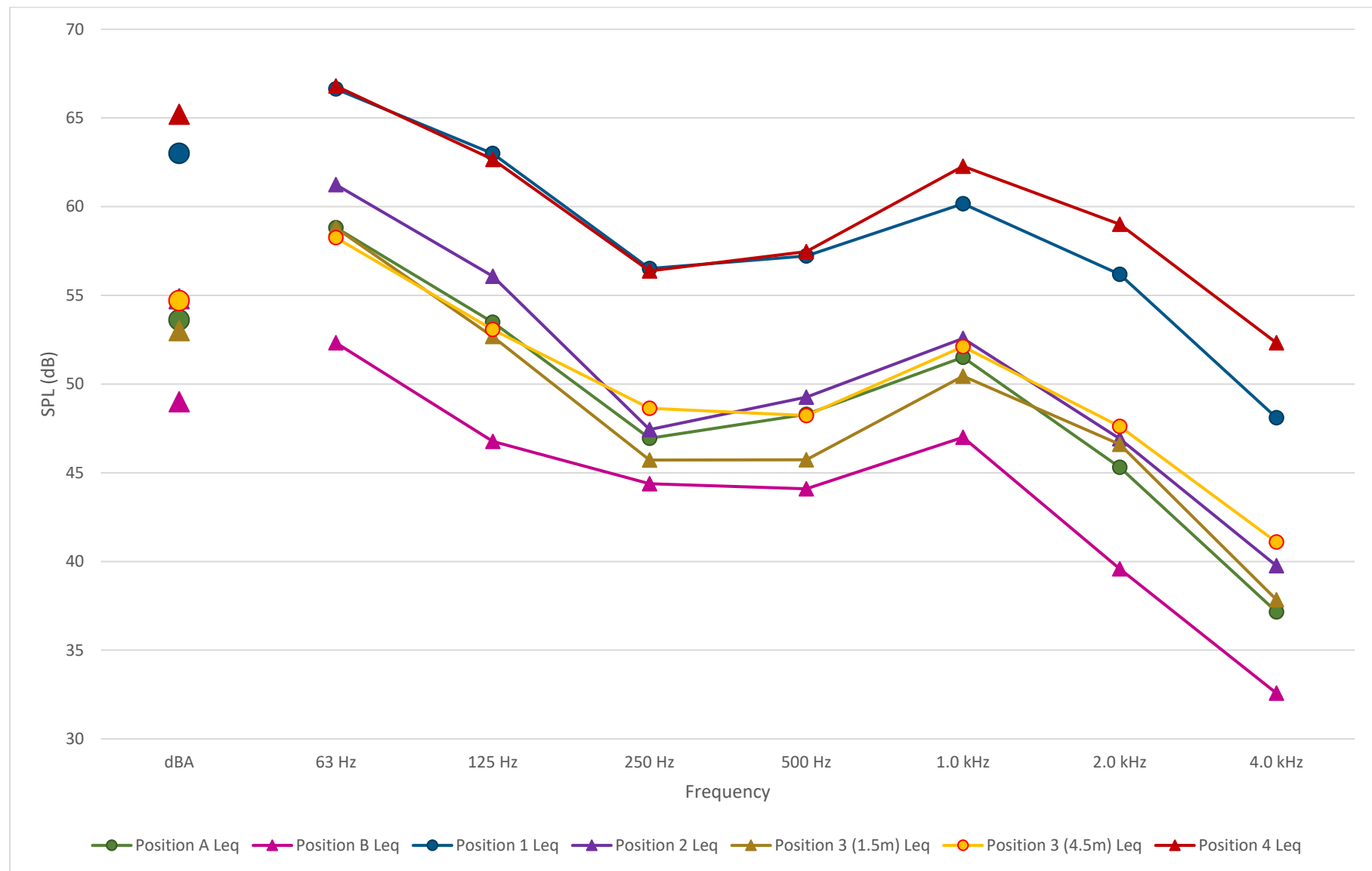


**Figure B.5 –  $L_{eq}$  Octave Band Spectra Measured**



## APPENDIX C - DRAWING LISTS

The following Austin-Smith Lord drawings and documents have been used in our assessment:

**Table C.1 – Drawing List**

| Drawing Title                            | Drawing Number            | Rev | Date       |
|------------------------------------------|---------------------------|-----|------------|
| Proposed Site Plan – Temporary Buildings | YGGT-ASL-00-00-DR-A-00901 | P1  | 04/02/2026 |
| Proposed Ground Floor Plan               | YGGT-ASL-00-00-DR-A-00100 | P1  | 18/02/2026 |