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S3 Suitable for Review and Comment

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24th August 2026

**RE: HERONSBRIDGE SEN SCHOOL**
**ASSESSMENT OF NOISE IMPACT FROM SCHOOL ACTIVITIES**

Dear Ms Warren,

We are writing to document the analysis and conclusions of a noise impact assessment we have undertaken for the above scheme. This assessment considers the impact, or otherwise, of the external play areas associated with the proposed new school, including the daytime use of the proposed MUGA.

We understand the project involves the construction of a new SEN school over 3 No storeys providing facilities for 300 students, in addition to 2 No residential units, and will replace an existing school and residential provision at a different site in the borough.

It is our understanding that the local planning authority will require an assessment of the noise impact of the use of the proposed external areas by pupils to be submitted with the planning application. This assessment is based on the existing noise levels measured at the site.

Our assessment has been based on the prediction of the noise generated by the future users of the school facility.

## *1.0 SITE DESCRIPTION…*

The proposal is the construction of a new school for children with special educational needs and a respite residential facility.

The site address is:

Heronsbridge SEN School (replacement)
Land adjacent to Bridgend Science Park
Bridgend

The site is located in previously undeveloped land with residential properties to the North, a science park to the East, and open countryside to the West and South. Access is to be gained from the East. The following receivers 1 and 2 were identified in our previous plant noise assessment, and being the nearest affected properties are also used for the purposes of this assessment.

| | |
|---|---|
| Receiver No 1 | Most exposed (off-site) residential property to the proposed school building. The address is understood to be known as 'Comerways' and is the Southern-most dwelling on Island Farm Road and is located approximately 100 m from the most Northern elevation of the proposed school building. |
| Receiver No 2 | Most exposed (on-site) residential property to the proposed school building. The address is understood to be the new social services residential accommodation block and is located approximately 60 m from the most Northern elevation of the proposed school building. |
| Receiver No 3 | Most exposed (off-site) residential property to the proposed MUGA. The address is unknown at this stage. It is, however, identified as the nearest dwelling proposed within the masterplan for the site and is located approximately 15 m to the South-West of the school's boundary. |

We understand the ethos of the proposed school is to enable outdoor play as part of lesson structure with as many activities taking place outside the classroom as possible. However, it is likely that not all pupils would be outside at the same time during formal teaching times. Therefore, and in our experience, formal break times are likely to provide the highest noise levels as there are likely to be more pupils outdoors during these times.

We understand the school is to provide facilities for 300 pupils and that the school has numerous areas for use by pupils during break times and as part of the curriculum. We expect the noise contribution to be a result of pupils talking and playing in these areas, and our assessment of this noise source is discussed in more detail in section 5.0.

## *2.0 ASSESSMENT CRITERIA…*

This assessment is intended for submission to the local authority to review and consider during the forthcoming planning application process on matters relating to noise. We have reviewed local planning policy relating to noise impact, and the following summarises the objectives/requirements:

**Planning Policy Wales (PPW)**
The document entitled Planning Policy Wales (PPW) sets out the Welsh Assembly's planning policies for Wales and how these are expected to be applied.

PPW is supplemented by a series of Technical Advice Notes (TANs).

PPW does not contain quantitative acoustic criteria but summarises national planning policy advice and articulates the Assembly's vision of sustainable development. It provides a framework within which councils can provide their own local plans, which reflect the needs and priorities of their communities.

In respect of noise and vibration, PPW states that planning policies and decisions should aim to:

- *"ensure, as far as is practicable, that noise-sensitive developments, such as hospitals, schools and housing, that need to be located close to existing transportation infrastructure to facilitate access, are designed in such a way as to limit noise levels within and around those developments;*

- *ensure, as far as possible, that potentially noisy developments are located in areas where noise will not be such an important consideration or where its impact can be minimised;*
- *adopt policies to prevent potentially noisy developments in areas which have remained relatively undisturbed by noise;*
- *have regard to any relevant Noise Action Plan, including the need to protect urban 'quiet areas' against an increase in noise.*

With regards to 'adverse effects' and 'significant adverse effects', PPW refers to the Technical Advice Note 11 (TAN 11).

**Technical Advice Note 11 (TAN 11)**
TAN 11 seeks to clarify the underlying principles and aims in existing policy documents, legislation and guidance that relate to noise. The advice note applies to all forms of noise, including environmental noise, neighbour noise and neighbourhood noise.

The statement sets out the long-term vision of the Welsh Assembly's noise policies and outlines some of the main considerations which local planning authorities should take into account when determining planning applications for development which will either generate noise or be exposed to existing noise sources.

This long-term vision is divided into three key sections:

- *Noise generating development*
- *Noise sensitive development*
- *Measures to mitigate the impact of noise*

The long-term policy vision and aims are designed to enable decisions to be made regarding what is an acceptable noise burden to place on society.

**Noise and Soundscape Plan for Wales 2023–2028**
The Welsh Government's Noise and Soundscape Plan for Wales 2023–2028 requires planning and public authorities to manage the acoustic environment as a "soundscape," meaning how sound is experienced by people rather than only measuring noise levels. The policy encourages development that avoids exposing people to harmful noise, protects quiet or tranquil areas, and designs places to support positive sound environments through layout, green infrastructure, and acoustic design. Planning authorities should consider the health, wellbeing, and amenity impacts of sound, ensure noise-generating and noise-sensitive land uses are compatible, and use mitigation where necessary so that developments contribute to appropriate soundscapes for communities.

**Bridgend County Borough Council RLDP (2018 – 2033)**
Strategic Policy SP2 – Design and Sustainable Place-Making
This policy requires all development to contribute to high-quality environments and protect amenity and states that development must avoid or minimise noise pollution and other environmental impacts. It also states that layout, siting and design should protect the amenity of existing and future residents.

Policy ENV7 – Environmental Protection
This policy states that development that would generate unacceptably high levels of noise should be located away from sensitive uses, particularly housing and that development should also not be placed near existing noise sources unless impacts are addressed or mitigated.
Neither the Local plan, nor the regional guidance provide specific criteria to assess the acceptability of noise impact. The acceptability of noise from the types of noise source expected on this site is not well defined in Standards and Planning Policy. We would suggest useful guidance is provided in the three following documents, and we have based our assessment on them.

- *BS8233:2014 - Sound Insulation and Noise Reduction in Buildings – A Code of Practice*
  This states that 55 $L_{Aeq}$ should be regarded as a limit within gardens and amenity space, which is based on advice from the World Health Organisation Community Noise Guidelines to lead to few people being seriously annoyed. The time period for averaging this parameter is specified by the WHO to be the 16-hour daytime (07:00 to 23:00).

- World Health Organisation guidance
  In addition, we have also considered the World Health Organisation guidance for noise levels which offer good external amenity. A good standard of external amenity is considered to be 55 dB(A) $L_{Aeq}$ and below.

  Furthermore, we would expect neighbouring dwellings to maintain reasonable internal noise levels with windows open for ventilation. The BS8233 guidance for reasonable internal noise during the day within a dwelling is 40 dB(A) $L_{Aeq}$. We would normally expect 10-15 dB(A) reduction through an open window and hence we would not expect the noise level from school activity noise to exceed 50 dB(A) $L_{Aeq}$ measured 1 m from the external building façade where there is an opening window.

- IOA/IEMA Guidelines for Noise Impact Assessment
  The Institute of Acoustics jointly with the Institute of Environmental Management and Assessment have provided guidance for assessment of the change in noise level against the pre-development noise level. The findings of the Working Party are of some assistance to this assessment. The guidelines state that for any assessment, the noise level threshold and significance should be determined by the assessor, based upon the specific evidence and likely subjective response to noise, the impact scale adopted in this assessment is shown in Table 1.

| Change in Noise Level dB(A) | Subjective Response | Significance |
|---|---|---|
| 0 | No change | No impact |
| 0.1 – 2.9 | Barely perceptible | Minor impact |
| 3.0 – 4.9 | Noticeable | Moderate impact |
| 5.0 – 9.9 | Up to a doubling or halving of loudness | Substantial impact |
| 10.0 or more | More than a doubling or halving of loudness | Major impact |

TABLE 1: GUIDELINES FOR SUBJECTIVE NOISE IMPACT DUE TO LEVEL CHANGES FOLLOWING THE INTRODUCTION OF A NOISE SOURCE

The criteria above reflect the key benchmarks that relate to human perception of sound. A change of 3 dB(A) is generally considered to be the smallest change in environmental noise that is perceptible to the human ear. A 10 dB(A) change in noise represents a doubling or halving of the perceived noise level. The difference between the minimum perceptible change and the doubling or halving of the noise level has been split to provide greater definition to the assessment.

**Sport England Guidance**
Sport England have produced a *Design Guidance Note* giving advice and recommendations in the planning of new AGPs (Artificial Grass Pitches).

The document *Artificial Grass Pitch (AGP) Acoustics – Planning Implications* is intended to offer a consistent approach for local authority noise assessments, and to provide limits that might be set for proposals adjacent to sensitive residential areas.

Within section 3 of the guidance, there is reference to World Health Organisation '*Guidelines for Community Noise*', and confirms

> *Based on a 15 decibel sound reduction of a partially open window, the noise level outside a residential property during the daytime about 1 metre from façades of living spaces should not exceed 50 dB $L_{Aeq}$.*
>
> *The WHO document also provides guidance for outdoor living areas. It states that to avoid 'moderate annoyance' during the daytime and evening the noise level should not exceed 50 dB $L_{Aeq(T)}$.*
>
> *World Health Organisation guidelines for residential development are typically calculated over a 16-hour daytime period. For an artificial grass pitch, a 16-hour assessment period may not truly reflect the noise impact as it takes into account times of use and non-use.*
>
> *It is suggested an appropriate assessment time period is for one hour, $L_{Aeq(1\ hour)}$ as this is typically the time period for a community sports session on an AGP.*
>
> *This WHO criteria was reviewed in a report by the National Physical Laboratory (reference CMAM16) which states:*
>
> > *Exceedance of the WHO guideline values does not necessarily imply significant noise impact and indeed, it may be that significant impacts do not occur until much higher levels of noise exposure are reached.*
>
> *Therefore, it is not necessarily the case that where these levels are exceeded, the noise will adversely affect nearby residential properties.*

**ProPG: Planning & Noise – Guidance for the Assessment of Sport and Leisure Noise**

We note that the ProPG: Guidance for the Assessment of Sport and Leisure Noise was, at the time of writing, issued in draft form for industry consultation (June 2026), with the consultation period due to close in September 2026 and the document subject to revision or withdrawal prior to formal publication. On this basis, we have treated the guidance as informal, non-statutory advice only, applied to supplement, not replace, the established $L_{Aeq}$-based standards already applied elsewhere in this assessment (BS8233, Sport England and WHO guidance).

This industry Working Group guidance recommends that noise from sport and leisure activities is assessed using both the equivalent noise level ($L_{Aeq,T}$) parameter for average levels, and the $L_{Amax}$ parameter for specific sporadic and short-term events, stating:

> *"Based on the review of current guidance and best practice it is the opinion of the Working Group that noise from sport and leisure is most appropriately assessed using the equivalent noise level ($L_{Aeq,T}$) parameter alongside assessment of specific sporadic and short-term events using the LAmax parameter."*

The guidance identifies Multi-Use Games Areas (MUGA) as a source of regular impulsive noise, for example where the ball strikes a metal goal or fence, and adopts the following criterion:

> *"...a criterion of 65 dB $L_{Amax,F}$ adopted as the threshold to indicate annoyance is highly likely to occur."*

For this assessment, a target of 65 dB $L_{Amax,F}$ at the façade of the nearest noise sensitive receiver is adopted as the $L_{Amax}$ criterion, applied solely to the assessment of maximum noise levels in Section 6.4.

The $L_{Aeq}$-based assessment, also set out in this report continues to rely on the established Sport England, BS8233 and WHO guidance discussed above.

## *3.0 SIGNIFICANCE OF NOISE IMPACTS…*

Sensitive receptors are understood to include residential properties around the perimeter of the site some of which form part of a wider masterplan. Residential properties are classed as having a high sensitivity to noise.

The following terminology has been used to define noise effects:

**Adverse** – detrimental or negative effects to an environmental resource or receptor;
**Negligible** – imperceptible effects to an environmental resource or receptor; or
**Beneficial** – advantageous or positive effects to an environmental resource or receptor.

Where adverse or beneficial noise effects have been identified, these are described using the following scale:

**Minor** – slight, very short or highly localised effect;
**Moderate** – limited effect (by extent, duration or magnitude), which may be important at a local scale; or
**Major** – considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

As the proposed use of the site is permanent, the duration of noise effects is defined as **Long-term** which is a period lasting for longer than 2 years.

Table 2 provides a matrix showing the significance of effects depending on the sensitivity of receptors and magnitude of impact.

| Sensitivity of Receptor | Significance of Effect Depending on Magnitude of Impact | | | |
|---|---|---|---|---|
| | **High** | **Medium** | **Low** | **Very Low** |
| High (Residential) | Major | Moderate | Minor | Negligible |

TABLE 2: SIGNIFICANT OF EFFECTS MATRIX

Generally, effects classed from negligible to minor are considered to be insignificant, whereas effects classed from moderate to major are considered to be significant. However, final determination of whether effects are likely to be significant is made following the classification of effects and using professional judgement. These include consideration of the duration, frequency and likelihood of noise effects and whether they are temporary or permanent and the area and number of receptors affected.

It is noted that the extent of effects due to the proposed MUGA will have an effect localised on the nearest neighbouring properties and it is noted that the MUGA is to be rented out to external users during the evenings and weekends on a light-use basis. On this basis the default scale of the impact would be **minor** which is not expected to be significant.

# *4.0 EXISTING BACKGROUND SOUND LEVELS…*

A survey of the pre-development sound environment was undertaken in a location which is considered representative of the pre-development *Background Sound Levels* at the nearest neighbouring properties in free-field conditions. The location of the measurement equipment is indicated in Appendix A.

During the measurement period the weather provided suitable conditions for noise survey work.

The *Ambient* and *Background Sound Level* at the nearest neighbouring dwellings are considered to be dominated by the noise from the local road network (repairs taking place with temporary traffic lights), passing airplanes, occasional passing trains, and construction noise / tree work taking place on neighbouring land. These sources of sound set the context for the assessment of noise impact.

A brief summary of the overall sound levels measured is provided in Table 3.

| Location | Period | Parameter dB(A) | |
|---|---|---|---|
| | | $L_{Aeq,T}$ | $L_{A90,T}$ |
| 1 | Day Time (07:00-23:00) | 48 | 45 |
| | Night-Time (23:00-07:00) | 47 | 34 |

TABLE 3: SUMMARY OF MEASURED NOISE LEVELS (FREE FIELD)

We have used the background noise level that occurs the most often to represent the $L_{A90,\ 1hr}$ for the assessment during the daytime period. We have not assessed the school activity noise during the night-time period as it is expected that the school would not be operational. This also includes an assumption that the MUGA will also **not** be rented out to external users during school daytime operational hours. The night-time data is therefore included for information purposes only.

# *5.0 PREDICTION OF SCHOOL OCCUPATION NOISE…*

## 5.1 Modelling Approach

Given the large scale of the site, with numerous areas where sound will be generated, and the multiple residential neighbours, we have taken the approach of using an environmental noise modelling package to generate a noise map of the site and the immediate surroundings.

We have provided a prediction of the noise levels at the noise assessment locations based on the method described in ISO 9613-2 *Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation*.

The ISO propagation model calculates the sound pressure level from a source sound power level in each 1/1 octave band and subtracts various attenuation factors as follows,

$$L_{ft}(DW) = L_w + D_c - \left(A_{div} + A_{atm} + A_{gr} + A_{bar} + A_{misc}\right)$$

Where,

$L_{ft}(DW)$ is the equivalent continuous downwind octave-band sound pressure level (dB)
$L_w$ is the octave band sound power level (dB)
$D_c$ is a directivity correction that describes the extent by which the $L_{ft}(DW)$ deviates in a specified direction from the level of an omni-directional sound source (dB)
$A_{div}$ is the attenuation due to geometrical divergence (dB)
$A_{atm}$ is the attenuation due to atmospheric absorption (dB)

$A_{gr}$ is the attenuation due to the ground effects (dB)
$A_{bar}$ is the attenuation due to a barrier (dB)
$A_{misc}$ is the attenuation due to miscellaneous other effects such as foliage, industrial sites and housing (dB).

The A-weighted total level is obtained by combining the octave band levels with the appropriate weighting and summing the contributions from each source.

Our calculations are performed using a proprietary software package, Predictor V2024 available through Softnoise in the UK, and it should be noted that the model is an approximation of the real situation. The calculated values are based on geometry information included in the model, some of which is approximate.

The playground is modelled as an “area source”, which essentially is a spread of point sources with a sound power per unit area. The noise model has assumed a ‘hard’ ground surface and has included the effects of air absorption at 273 K at 101 kPa and 60% humidity.

We have undertaken the calculation described for the noise assessment locations at a position that are 1.5 m above the local ground level.

The predicted noise levels are based on the layout provided at the time of writing this review.

## 5.2 Sound Power Levels

The 2003 Edition of Building Bulletin 93 (Acoustics in Schools - A Design Guide) provides a good reference for the volume of speech. This is presented as sound pressure levels and sound power levels in Section 4, Figure 4.1 of the document which we have summarised in Table 4.

| Vocal Effort | Sound Level | |
|---|---|---|
| | Power (Watts) | Pressure dB(A) at 1m |
| Normal | 10 μW | 60 |
| Raised | 100 μW | 70 |
| Shouting | 1000 μW | 80 |

TABLE 4: TYPICAL VOLUME OF DIFFERING LEVELS OF SPEECH

In simple terms this indicates that one person talking in a raised voice equals 10 people talking normally and that one person shouting equals 100 people talking with a normal voice effort.

The total acoustic output is a function of the vocal effort (as above), the number of people speaking, and the duration.

It is feasible that in a busy school, multiple people can be speaking while others are shouting, and hence there are many variables that need to be accounted for in deriving a model of noise emanating from the external areas.

We have used our own experience and prior measurement within occupied schools to derive an acoustic model of the external areas in the school which in our opinion is a reasonable estimate of the noise created.

We understand that due to the nature and aspiration of the education provision at the school, significant elements of the learning experience are to take place outdoors, or with sections of glazing to the classrooms open during teaching times.

**We have, however, based our assessment on a worst-case scenario of all pupils being outside at any given time, including the use of the MUGA during break times**. We have averaged out the sound power produced from the users of the facility over the entire area of the external provision. i.e we have assumed the users are, in the worst-case scenario of everyone being outside at the same time, spread out evenly across the whole accessible outdoor areas, including the MUGA.

Our model is based on 40% of students talking at any one time, 20% using a raised voice and 1% shouting, with the rest providing no significant contribution to the overall sound scape. In our experience, this represents a reasonable attribution to such activities. We expect the noise model to best represent an onerous case which will be most significant during break times, rather than during more organised and structured educational exercises. It should be noted that actual noise levels can be expected to vary by several decibels from the predicted levels obtained through this modelling technique.

The site boundaries are understood to be surrounded by open steel bar fencing and therefore provide no sound reduction. We have therefore not included any on-site boundary treatment in our modelling.

## 5.3 Sound Propagation Modelling

Full details of the modelling methodology are provided in the appendix. Briefly the modelling settings include:

- Soft ground for the immediate sports fields, hard ground for everything else
- Downwind propagation in all directions (worst case)
- Calculation height of 4 m (worst case for two storey properties)
- Area source height of 1.5 m
- Area source spacing of 2 m

The calculated noise levels are indicated at 4 m above local ground level to represent the first floor of a traditional house. The highest floor of a building is expected to benefit least from screening effects and secondary propagation effects, whilst being negligibly further from the source.

## 5.4 Calculated Specific Sound Levels (MUGA ONLY)

The modelling of sound propagation from the proposed MUGA when in use alone, i.e. outside school operating hours, has provided an estimate of the resulting outdoor sound levels at the neighbouring properties. We have modelled the outcome at the receivers as the noise rating from the use of the MUGA alone i.e. during periods when the school is closed but the MUGA is utilised by external users. There is therefore an assumption that the MUGA will only be rented out to external users outside school operational hours.

The following summarises the estimated levels of sound reaching the facades of the nearest properties during a 1-hour period of use.

The values represent a façade level, which incurs a +3 dB correction to that of the free-field levels obtained at Survey Location 1.

| Receiver | Specific Sound Level (dB $L_{Aeq,1hr}$) | Maximum Sound Level (dB $L_{Amax,F}$) |
|---|---|---|
| 1 | 41 | 55 |
| 2 | 42 | 56 |
| 3 | 51 | 65 |

TABLE 5: CALCULATED SPECIFIC SOUND LEVELS OF PROPOSED MUGA (FAÇADE LEVEL)

The outcome of the modelling indicates the sound levels experienced at the most affected property (Receiver No 3 – Masterplan Housing) is found to be 51 dB(A) $L_{Aeq}$ over a typical 1-hour period due to use of the proposed MUGA.

## 5.5 Modelling Results (School Activities Only)

We have used the 3 No. assessment locations described earlier to represent the closest sensitive receiver to the playground areas, including the MUGA, as follows:

The specific levels calculated at the receiver location is summarised in Table 4.

| Receiver No. | Existing Ambient Noise Level dB(A) $L_{Aeq}$ | Background Sound Level dB(A) $L_{A90}$ | Predicted Sound Level at Receiver dB(A) $L_{Aeq,1hr}$ | Difference Rating - BG dB(A) |
|---|---|---|---|---|
| 1 (off-site) | 51 | 48 | 33 | -15 |
| 2 (on-site) | | | 34 | -14 |
| 3 (Masterplan nearest Receiver) | | | 46 | -2 |

TABLE 6: SUMMARY OF NOISE MODELLING RESULTS (FAÇADE)

It should be noted that the prediction modelling is approximate, and the levels quoted are for comparative purposes only. Some variation in the actual levels can be expected.

Images of the site model indicated contour plots and receiver location are included in the appendix.

# *6.0 ACCEPTABILITY OF PREDICTED NOISE LEVELS…*

## 6.1 External Amenity Space - MUGA Only

The predevelopment free-field sound level measured at the site is 48 dB(A) $L_{Aeq,16hr}$.

Based upon the likely hours of use of the proposed MUGA, i.e. outside school operating hours, we have combined the existing ambient sound level with the specific sound from the proposal at the worst affected receiver. The combined total day time sound level in the gardens of the worst affected receiver No 3 is expected to be 53 dB(A) $L_{Aeq,16hr}$.

| Loc. | Period | Criterion | Target | *Specific Sound Level* dB(A) (Proposed MUGA) | Comment |
|---|---|---|---|---|---|
| Rec. No 3 | Daytime 07:00 to 23:00 | External Amenity (Good) | ≤ 50 dB(A) | 53 (48+51) | Proposed conditions achieve "Reasonable" standards |
| | | External Amenity (Reasonable) | ≤ 55 dB(A) | | |

TABLE 7: SUMMARY OF NOISE IMPACT AT WORST-AFFECTED RECEIVER LOCATION (MUGA ONLY)

The Specific Sound Level is calculated as the measured ambient level plus predicted sound level.

The introduction of additional sound as a result of the use of the MUGA is expected to lead to an increase in the ambient sound level at the worst affected receiver.

We can conclude that there will be an increase of 2 dB(A) at the worst affected Receiver No 3 as a result of the proposed out of hours use of the MUGA facility.

We therefore conclude the impact on external amenity to be **minor** and of a **low** significance in this worst-case condition.

## 6.2 Assessment at the Property Facade

Our modelling predicts the sound level at the façade of the nearest and most affected properties (Receiver No 3) to be 51 dB(A) $L_{Aeq,1hr}$ as a result of the proposed MUGA being maximally utilised.

The calculated levels do not achieve the Sport England basis of assessment (max 50 dB(A) $L_{Aeq,1hr}$) at the façade of the neighbouring properties. However, the existing ambient noise level, measured the sound level at the façade of the nearest and most affected properties (Receiver No 3) to be 51 dB(A) $L_{Aeq,1hr}$. Under this circumstance, the predevelopment ambient noise also does not achieve the Sport England basis of assessment with an exceedance of 1 dB(A).

The calculated level also does not achieve the British Standard basis of assessment (max 45 dB(A) $L_{Aeq,1hr}$) at the façade of the neighbouring property, although it is noted that the existing soundscape also does not achieve this value.

Consequently, we would expect the resulting internal sound within the properties to exceed the British Standard guidance level of 35 dB(A) $L_{Aeq,16hr}$ at Receiver No 3.

We are of the opinion, however, that due to there being minimal change in level we conclude that the increase in noise would be borderline between **minor** and of a **low** significance and **noticeable** and of **moderate** significance in this worst-case condition.

## 6.3 Noise Level Change

We estimate there to be a ‘barely perceptible’ borderline ‘noticeable’ increase in ambient sound level at the most affected receiver No 3 during the day, and ‘no change’ at Receivers 1 and 2.

The use of the MUGA is anticipated to result in a marginal increase in level of the order of 2-3 dB(A) $L_{Aeq,1hr}$ at the nearest residential properties.

Following the IOA/CIEH guidance for noise impact, we conclude that the proposed MUGA, in our opinion, would lead to a barely perceptible change in level and lead to the conclusion that it has a **minor** impact, and hence is of **low** significance.

## 6.4 Assessment of Maximum Noise Levels

In accordance with the ProPG guidance, we have also considered the potential impact of short-term impulsive noise events from the MUGA, such as ball impacts or referee whistles.

Of the sports likely to be played on the MUGA, basketball is reported in the ProPG guidance (Table 13.1) as generating the highest source sound levels, with 10th-percentile source levels of 68 dB LAmax at Position A and 69 dB LAmax at Position B, both measured 5 m from source. We have therefore adopted these basketball source levels (Position B) as representing a reasonable worst case for this assessment.

The ProPG methodology adopts a criterion of 65 dB LAmax,F at the façade of the nearest noise sensitive receiver, as the threshold above which annoyance from impulsive events is highly likely to occur. The results of our assessment are summarised in Table 9. Note we have only included the worst-affected receiver No 3 which, if demonstrated to be acceptable, it would be reasonable to expect the other less-affected receivers would be more acceptable.

| Receiver | Predicted 10th Percentile Maximum Noise Level (dB $L_{Amax,F}$) | ProPG Criterion (dB $L_{Amax,F}$) | Margin | Significance |
|---|---|---|---|---|
| Receiver No 3 | 65 | 65 | 0 | Acceptable |

TABLE 9: COMPARISON OF PREDICTED MAXIMUM NOISE LEVELS AGAINST PROPG CRITERION

## 6.5 Assessment of School Activities Only

We have determined that the difference rating between the background sound level and the predicted noise level to be -15 dB(A), -14 dB(A) and -2 dB(A) at receivers 1, 2 and 3 respectively.

We have compared our findings against the criteria within relevant planning guidance documents and have concluded the following:

**Local Authority Requirements**

We are not aware of any site-specific noise targets or local planning authority requirements at this stage.

**BS8233:2014 / WHO**

The nearest off-site receiver with outdoor amenity space is Receiver No 3 (Masterplan). Our modelling indicates that the free-field noise level experienced in the amenity area is likely to be c.51 dB(A) when all pupils are outside and is therefore below the target level of the 55 dB(A) $L_{Aeq,16hr}$ criteria.

The result at Receiver No 3 indicates a worst-case façade level of 46 dB(A) at the nearest open window. We therefore believe noise emanating from the outdoor play areas in the case of all pupils being located outside the building envelope at a given time would not exceed the 50dB(A) $L_{Aeq,16hr}$ criteria at 1m away from a potential open window.

**IOA/IEMA**

Using the IOA/IEMA methodology, the outdoor play areas are not expected to increase the short-term noise level in the worst case of all pupils being outside at any given time, and at the worst affected receiver.

On this basis the noise impact would be concluded to be “no change” having a “negligible impact”.

It is worth noting that we have focused on short-term intervals, such as break times of typically 20 mins to 1 hr. By using longer term averaging over the full 16 hr day would lead to a reduced noise impact and even more favourable conclusions.

We would also note that there may be variations in peak noise levels throughout the daytime period, when users may be grouped together in proximity to the nearest receivers and if this were to occur over a 1-hour period (e.g. lunch break), then this may yield a different conclusion. However, for the purposes of this assessment and in our experience, users of SEN facilities are typically not likely to group in large numbers unattended, and we are of the opinion that averaging out the users over the wider external area is a reasonable approach.

## *7.0 CONCLUSION…*

We have made an assessment of the likely noise impact of the external play areas at the new Heronsbridge replacement school.

In our assessment we have predicted the noise which will be created by the use of the outdoor play areas during school hours and the MUGA outside school hours, including maximum noise events such as bouncing balls, against the requirements set out in relevant guidance documents.

Our conclusion is that the overall noise level experienced outside of neighbouring properties is expected to comply with the requirements.

In our opinion the noise impact of the external play areas is acceptable.

I hope this covers all required points at this stage, but please advise if you require anything further.

Yours sincerely,
For Red Twin Limited

Dr Ashley Punter BEng (Hons) EngD MSc MRTPI MIOA
Consultant

## *APPENDIX A – PROPOSED SITE PLAN…*

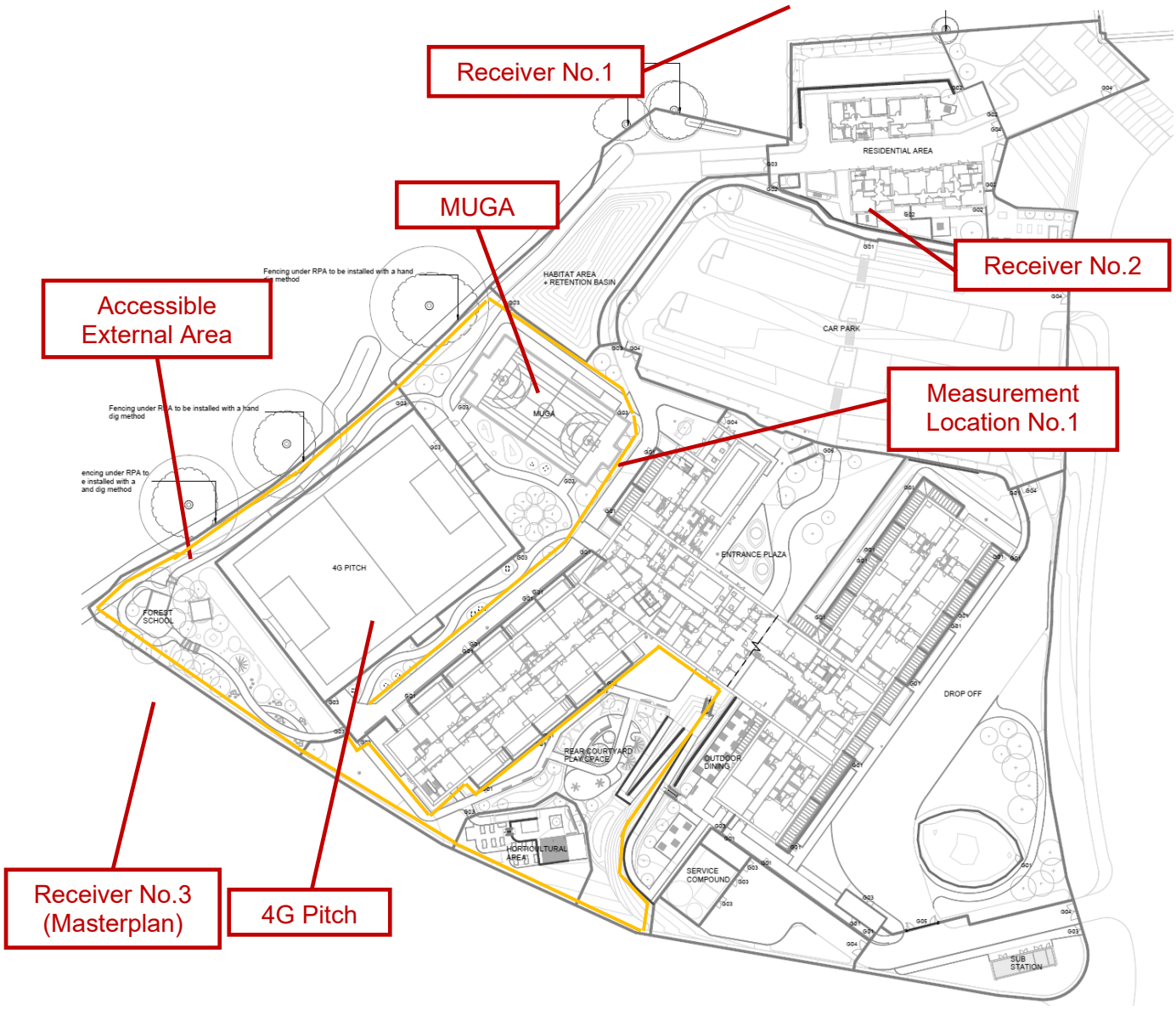


FIGURE 1: SITE PLAN SHOWING SCHOOL, EXTERNAL PLAY AREAS, MUGA, 4G PITCH AND NEIGHBOURING NOISE SENSITIVE RECEIVERS

Note: For the purposes of this assessment the 4G pitch is referred to as the MUGA as this is the pitch that is to be rented to external users.

# *APPENDIX B – SURVEY DETAILS…*

**Address:** New Heronsbridge SEN School, Land adjacent to Bridgend Science Park, Bridgend.

**Date:** 2nd - 4th March 2026

**Measurement Location**

Location 1 The monitoring equipment was set up to the West of the site at a location considered representative of the Northern façade of the proposed new school building. The microphone was pole mounted at 2.5 m above local ground level and in free-field conditions as indicated in Figure 2.

**Equipment**

Location 1 (Green kit)

Brüel & Kjær 2250 hand-held analyser, serial No 2832395, with a Brüel & Kjær Type 4189 Microphone, serial No 3005055. The microphone was fitted with a UA-1650 windshield. The hand-held analyser and microphone were laboratory calibrated on 9th April 2024 (Certificate No. 47434) and the calibrator was laboratory calibrated on 6th October 2025 (Certificate No. U52280). The hand-held analyser sensitivity was checked before and after the measurements using the calibrator and a drift of +0.05 dB was observed, which is not significant and no adjustments to the measurements have been made to the data.

**Personnel**

The survey was set up and managed by Dr Ashley Punter of Red Twin Limited.

**Weather**

The weather was suitable for noise measurement with sunny / part cloud conditions. There was no precipitation at any time during or immediately prior to the survey. Wind speeds were generally low (<<5 m $s^{-1}$) and were suitable for noise surveying.

Conditions were acceptable for noise measurement work and in full accordance with BS7445.

**Survey Comments**

The background and ambient sound at site are considered to be dominated by the noise from the local road network (repairs taking place with temporary traffic lights), passing airplanes, occasional passing trains, and construction noise / tree work taking place on neighbouring land.

| Location | Start Time | Duration | Parameter dB(A) | | | |
|---|---|---|---|---|---|---|
| | | | $L_{AFmax}$ | $L_{Aeq}$ | $L_{A1}$ | $L_{A90}$ |
| 1 Day 1 | 13:00:00 | 01:00:00 | 87.2 | 54.0 | 60.2 | 42.9 |
| | 14:00:00 | 01:00:00 | 71.6 | 50.5 | 63.5 | 44.0 |
| | 15:00:00 | 01:00:00 | 69.5 | 50.2 | 59.7 | 45.9 |
| | 16:00:00 | 01:00:00 | 69.2 | 50.4 | 56.7 | 47.0 |
| | 17:00:00 | 01:00:00 | 67.2 | 48.7 | 55.8 | 45.7 |
| | 18:00:00 | 01:00:00 | 69.2 | 48.2 | 53.9 | 45.7 |
| | 19:00:00 | 01:00:00 | 63.7 | 49.4 | 60.2 | 44.2 |
| | 20:00:00 | 01:00:00 | 66.1 | 47.0 | 59.5 | 41.4 |
| | 21:00:00 | 01:00:00 | 56.0 | 45.6 | 50.6 | 42.3 |
| | 22:00:00 | 01:00:00 | 61.6 | 44.9 | 51.1 | 40.3 |
| 1 Day 2 | 07:00:00 | 01:00:00 | 70.8 | 49.7 | 57.0 | 47.5 |
| | 08:00:00 | 01:00:00 | 64.7 | 48.1 | 53.5 | 46.1 |
| | 09:00:00 | 01:00:00 | 70.2 | 52.5 | 58.6 | 47.5 |
| | 10:00:00 | 01:00:00 | 73.0 | 52.5 | 61.9 | 45.2 |
| | 11:00:00 | 01:00:00 | 72.5 | 52.2 | 59.1 | 47.7 |
| | 12:00:00 | 01:00:00 | 77.8 | 53.5 | 58.4 | 47.4 |
| | 13:00:00 | 01:00:00 | 68.1 | 48.3 | 56.6 | 45.6 |
| | 14:00:00 | 01:00:00 | 78.6 | 51.2 | 55.5 | 46.6 |
| | 15:00:00 | 01:00:00 | 69.2 | 50.2 | 56.4 | 45.3 |
| | 16:00:00 | 01:00:00 | 64.6 | 49.0 | 54.6 | 45.6 |
| | 17:00:00 | 01:00:00 | 68.8 | 49.1 | 57.9 | 46.2 |
| | 18:00:00 | 01:00:00 | 57.4 | 46.9 | 50.6 | 45.3 |
| | 19:00:00 | 01:00:00 | 61.8 | 45.6 | 48.4 | 44.0 |
| | 20:00:00 | 01:00:00 | 53.3 | 44.3 | 46.9 | 42.8 |
| | 21:00:00 | 01:00:00 | 56.9 | 44.1 | 47.6 | 41.8 |
| | 22:00:00 | 01:00:00 | 55.6 | 42.9 | 47.0 | 40.4 |
| 1 Day 3 | 07:00:00 | 01:00:00 | 67.11 | 49.8 | 54.35 | 48.06 |
| | 08:00:00 | 01:00:00 | 76.5 | 50.82 | 58.55 | 47.48 |
| | 09:00:00 | 01:00:00 | 86.79 | 51.53 | 56.33 | 45.53 |
| | 09:54:00 | 00:54:00 | 115.4 | 72.47 | 56.9 | 44.07 |

TABLE 8: MEASURED NOISE DATA – (FREE-FIELD)

Data in red has been excluded from our survey due to it being extraneous noise sources

FIGURE 2: PHOTOGRAPH OF SURVEY MEASUREMENT LOCATION NO 1 (LOOKING NORTH)

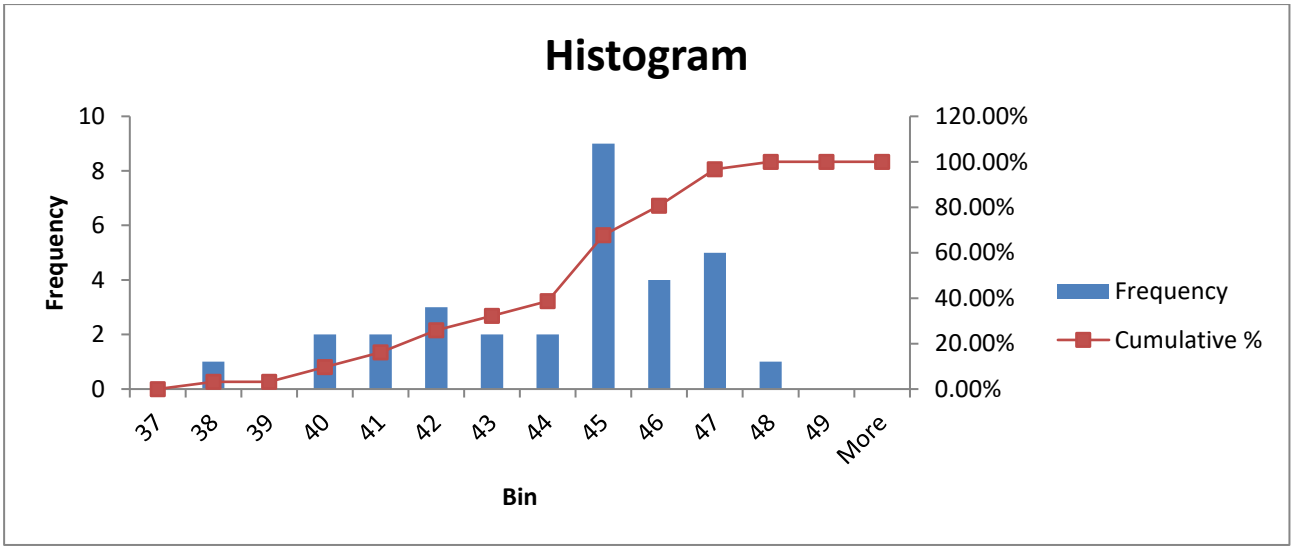


FIGURE 3: HISTOGRAM OF LA90 1HR DAYTIME

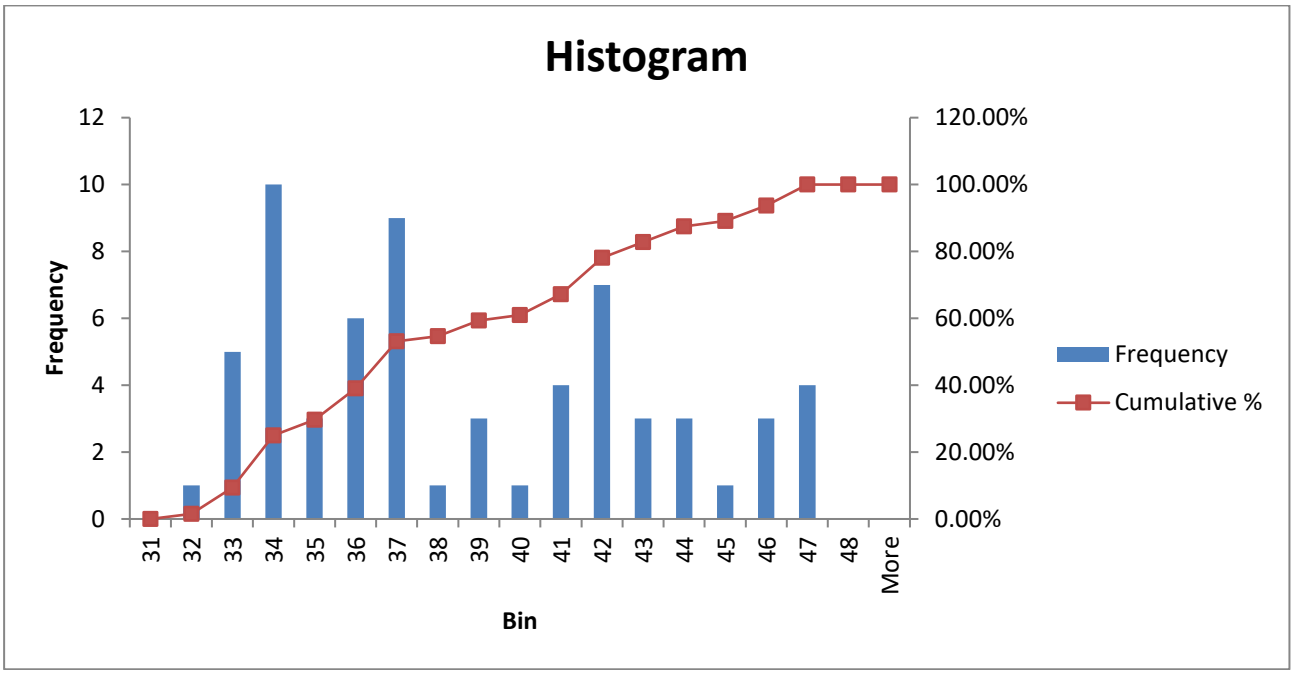


FIGURE 4: HISTOGRAM OF LA90 15MINS NIGHT-TIME

# *APPENDIX C – NOISE CONTOURS…*

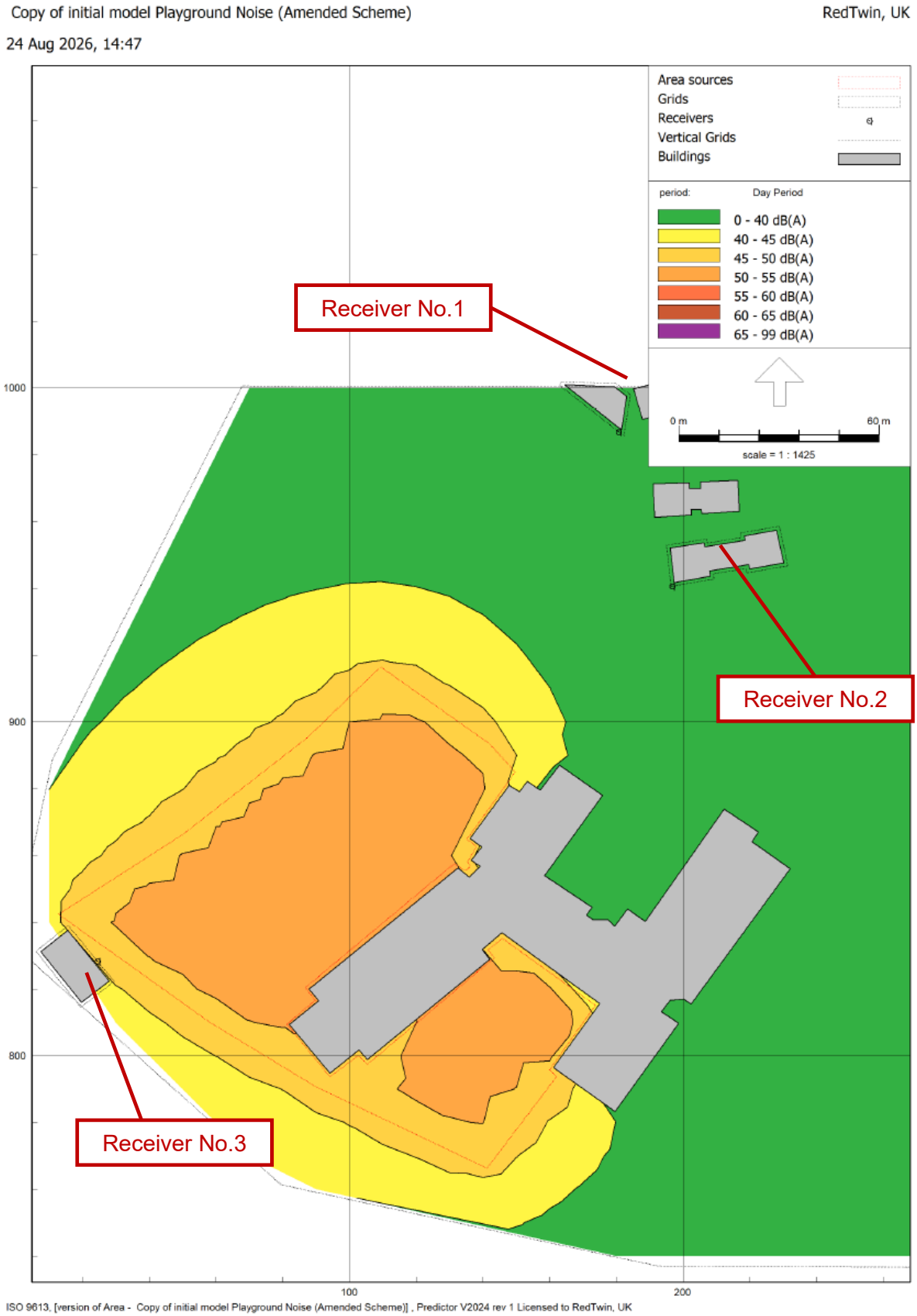


FIGURE 5: NOISE CONTOURS OF SCHOOL ACTIVITY NOISE

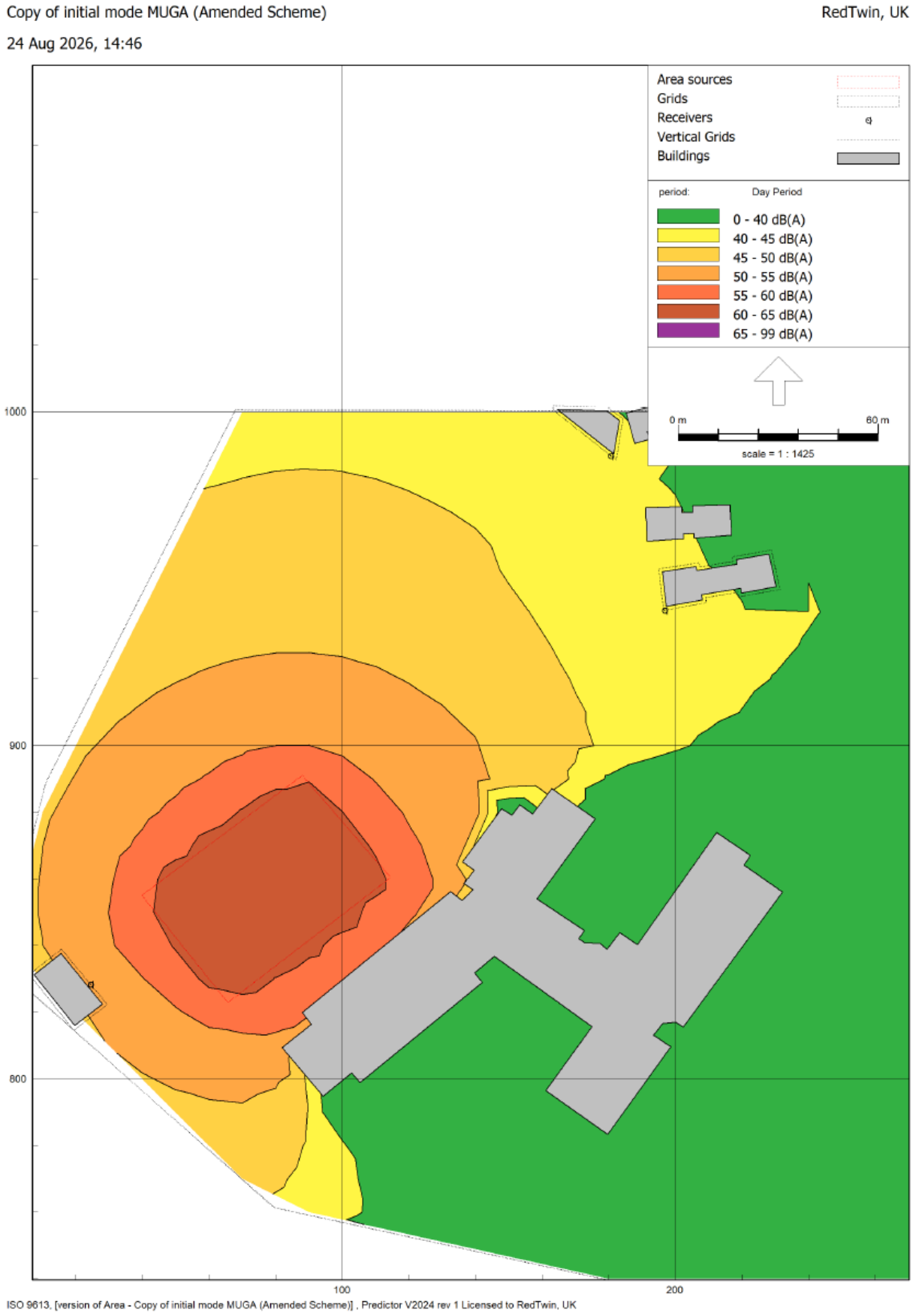


FIGURE 6: NOISE CONTOURS OF MUGA

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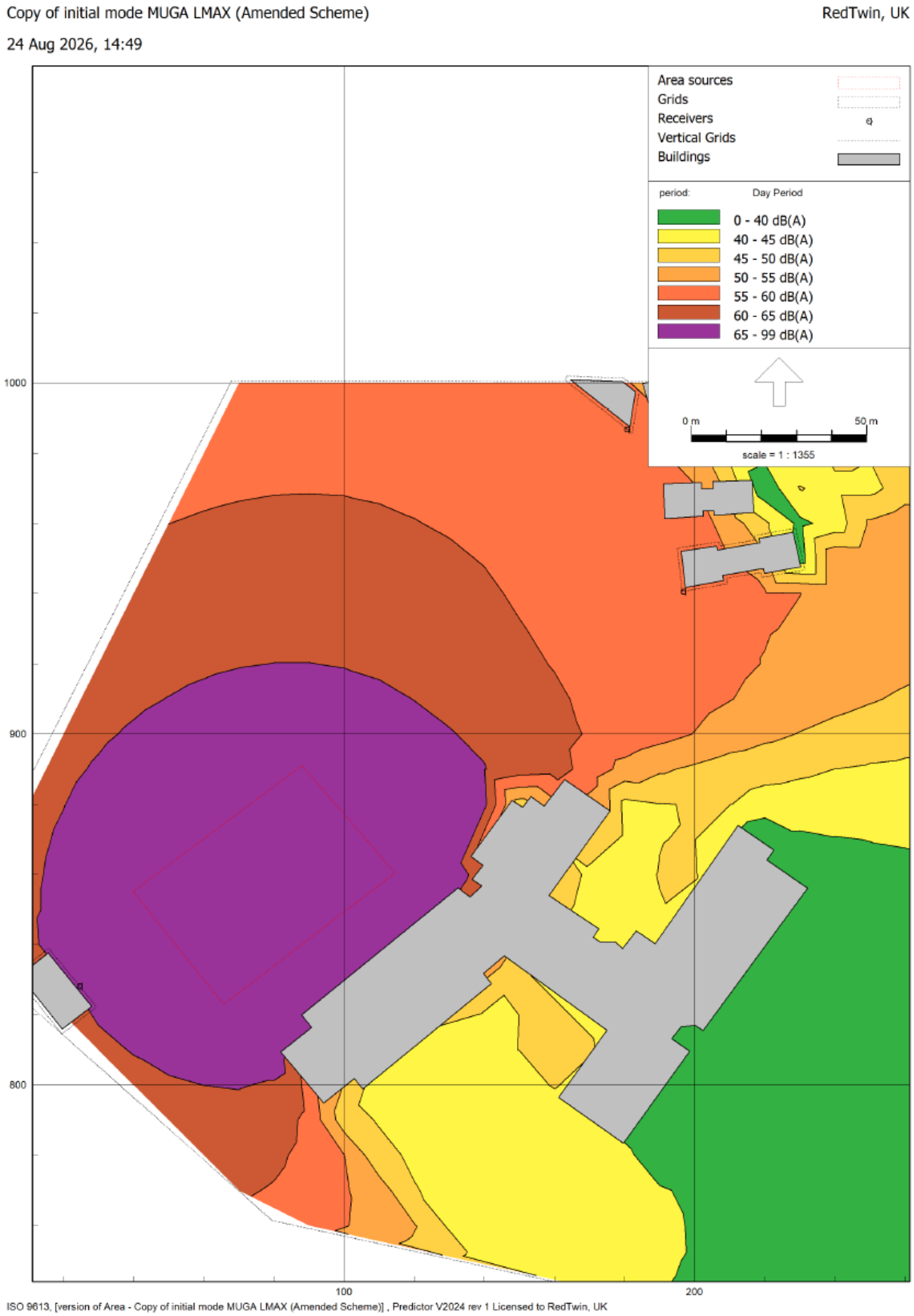


FIGURE 7: NOISE CONTOURS OF MUGA (LMAX)

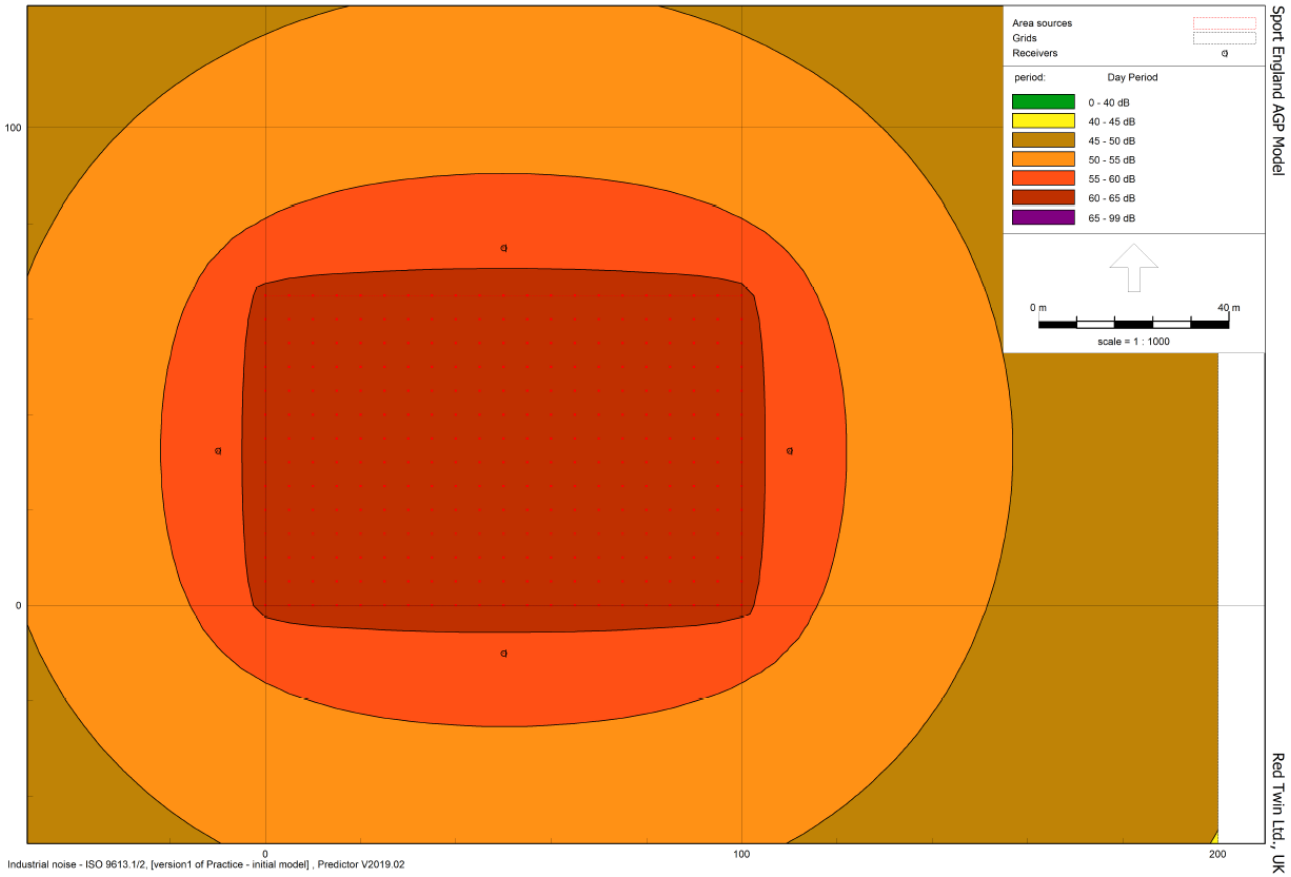


FIGURE 8: ACOUSTIC MODEL OF SPORT ENGLAND AGP IN FREE-FIELD CONDITIONS AT HEIGHT OF 1.5 M