SHARPS REDMORE

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Report

Hill Farm, Stoke Ash, Eye, Suffolk

Noise Assessment

Prepared by
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Date 17th June 2022

Project No 2120307

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Appendices

1.0 Introduction

1.1 Sharps Redmore (SR) have been instructed to undertake an assessment of noise from a proposed dance hall venue at Hill Farm, Stoke Ash, near Eye, Suffolk. ("the Premises") on behalf of Hill Farm Partnership (the Applicant). A site location plan is shown in Appendix A.

1.2 The report is to accompany a prior notification application for the use of the premises within the existing barn building. The report contains an assessment of likely music noise and other noise sources associated with the proposed venue.

1.3 The premises is located within the Applicant's land. A dwelling within the Applicant's control is approximately 35m to the south of the premises with the main A140 approximately 1km to the west.

1.4 There are a small number of properties in the vicinity. The closest not associated with the proposal is approximately 180m to the north-west. The garden area to the rear of this property is also considered and the monitoring position at the boundary of the property reflects this. The assessment concentrates on this property, being the nearest not within the applicant's control and is considered robust assessment. The village of Stoke Ash lies approximately 750m to the west and this has also been considered within the assessment, together with the surrounding area.

1.5 Within the assessment, certain management and design measures have been assumed or are recommended. These are set out in the report where appropriate and in a summary at the end of the operational noise assessment in section 4.0.

1.6 Section 2.0 contains a discussion of the available methods of assessment and assessment criteria.

1.7 Section 3.0 of this report contains details of the noise assessment.

1.8 The assessment conclusions are contained in section 4.0 of this report.

2.0 Assessment Methodology and Criteria

2.1 The National Planning Policy Framework (NPPF) revised in 2021, sets out the Government's economic, environmental and social planning policies for England and "these policies articulate the Government's vision of sustainable development." In relation to noise, paragraph 185 states:

> *"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
>
> *a) mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
>
> *b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

The overarching aim should therefore be to avoid significant adverse impacts and to minimise impacts which are above the lowest observable adverse effect level, so far as reasonably possible.

2.2 The DEFRA publication, "Noise Policy Statement for England" 2010 (NPSE) in paragraph 2.7 considers that it is not expected that noise is considered in isolation, separately from economic, social and other environmental dimensions of the proposed development.

The NPPF reinforces the NPSE) which states three policy aims, as follows:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life*."

2.3 Together, the first two aims require that no significant adverse impact should occur and that, where a noise level which falls between a level which represents the lowest observable adverse effect and a level which represents a significant observed adverse effect, then according to the explanatory notes in the statement:

> "… all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur."

2.4 It is possible to apply objective standards to the assessment of noise and the effect produced by the introduction of a certain noise source may be determined by several methods, as follows:

i) The effect may be determined by reference to guideline noise values. For example, British Standard (BS) 8233:2014 and World Health Organisation (WHO) "*Guidelines for Community Noise"* contain such guidelines.

ii) The Noise Council Code of Practice for environmental noise control at concerts, Noise Act 1996 and the Institute of Acoustics good practice guide on the control of noise from pubs and clubs, all provide guidance and suggested criteria.

iii) Another method is described within BS 4142:2014 to determine the significance of sound impact from sources of industrial and/or commercial nature. The sources that the relatively newly revised standard is intended to assess are sound from industrial and manufacturing processes, sound from fixed plant installations, sound from loading and unloading of goods at industrial and/or commercial premises and the sound from mobile plant and vehicles, such as forklift, train or ship movements. In terms of music noise. it is not considered that this standard is appropriate or relevant to the type of noise being considered.

Guideline noise values

2.5 There are a number of guidance documents that contain recommended guideline noise values. These are discussed below.

2.6 British Standard 8233:2014 is principally intended to assist in the design of new dwellings; however, the Standard does state that it may be used in the assessment of noise from new sources being brought to existing dwellings.

2.7 The WHO advice is the most useful, comprehensive, and pertinent advice in this case, because it is not specific to the circumstances of the assessment. Instead, it provides guidance on acceptable limits in, for example, schools, dwellings and offices from noise occurring within the community.

2.8 The WHO guideline values are appropriate to what are termed "critical health effects". This means that the limits are at the lowest noise level that would result in any psychological or physiological effect. They are, as defined by NPSE, set at the Lowest Observed Adverse Effect Level (LOAEL), but do not define the level above which effects are significant (the SOAEL). Compliance with the LOAEL should, therefore, be seen as a robust aim.

2.9 The National Physical Laboratory document *"Health Effect based noise assessment methods; a review and feasibility study", (September 1998)* contains an "interpretation" of the WHO guidelines (then in draft form) for the DETR. The summary of this section of the NPL report states *"In essence, the WHO guidelines represent a consensus view of international expert opinion on the lowest threshold noise levels below which the occurrence rates of particular effects can be assumed to be negligible. Exceedances of the WHO guideline values do not necessarily imply significant noise impact and indeed, it may be that significant impacts do not occur until much higher degrees of noise exposure are reached"* (paragraph 5.4).

2.10 The World Health Organisation/BS 8233 guideline noise values are summarised in the Table 2.1 below:

Table 2.1: WHO/BS 8233 guideline noise values

Document	Level	Guidance
World Health Organisation "Community Noise 2000"	L_{AeqT} = 55 dB	Serious annoyance, daytime and evening. (Continuous noise, outdoor living areas)
	L_{AeqT} = 50 dB	Moderate annoyance, daytime and evening. (Continuous noise, outdoor living areas).
	L_{AeqT} = 35 dB	Moderate annoyance, daytime and evening. (Continuous noise, dwellings, indoors)
	L_{AeqT} = 30 dB	Sleep disturbance, night-time (indoors)
	L_{Amax} = 60 dB	Sleep disturbance, windows open at night. (Noise peaks outside bedrooms, external level).
	L_{Amax} = 45 dB	Sleep disturbance at night (Noise peaks inside bedrooms, internal level)
BS 8233:2014 "Sound Insulation and noise reduction for buildings"	L_{AeqT} = 55 dB	Upper limit for external steady noise. (gardens and patios).
	L_{AeqT} = 50 dB	Desirable limit for external steady noise. (gardens and patios).
	$L_{Aeq\ 16\ hours}$ = 35 dB	Resting, living room day. (Internal – steady noise)
	$L_{Aeq\ 16\ hours}$ = 40 dB	Dining, dining room day. (Internal – steady noise)
	$L_{Aeq\ 16\ hour}$ = 35 dB	Sleeping, bedroom day (Internal – steady noise)
	$L_{Aeq\ 8\ hours}$ = 30 dB	Sleeping, bedroom night (Internal – steady noise)

2.11 For L_{AeqT} criteria the time base (T) given in the documents is 16 hours for daytime limits and 8 hours for night time limits.

2.12 There is no firm policy guidance or assessment methodology for noise emissions from venues such as the proposed dance hall. Guidance for similar premises is discussed below.

2.13 The Institute of Acoustics (IoA) produced a "Good Practice Guide on the Control of Noise from Pubs and Clubs" in March 2003. Whilst not directly applicable to a dance hall, it is a useful guide, but did not contain objective noise criteria. To address this, a working group produced a draft annex on criteria and measurement criteria which was published in the IoA Bulletin (Volume 28, No. 6, 2003). It proposed that, for premises where music might occur more than once a week or continue past 2300 hours the L_{Aeq} of the entertainment noise should not exceed the representative background noise level (BNL) L_{A90} (without entertainment noise). This criterion is an internal criterion. The document advises that the zero exceedance guidance given in the criterion would equate to differences of approximately 5 dB outside a partially open window. Less regular events have similar criteria but allow entertainment noise to be 5 dB higher for all parameters.

2.14 The Noise Act 1996 (which applies to licensed premises, including those with "temporary event notices") created the notion of a 'permitted level' for night time noise between 2300 and 0700 hours. The permitted level is exceeded when the measured level is greater than or equal to 34 dB $L_{Aeq5\ mins}$ within a complainant's premises, and the noise exceeds the 'underlying level' by at least 10 dBA. In this instance, it is not expected that the underlying level (which is an internal level, measured with windows closed) would be greater than 24 dB, so the 34 dB lower threshold is the applicable target. This would equate to 44 dB externally (assuming a conservative reduction of 10 dB through a partially open window). The Noise Act 1996 requires the assessment to be undertaken with windows and doors closed, so the internal limit here would equate to at least 55 dB L_{Aeq} outside the premises.

2.15 For external areas (i.e. garden space which may be used in the day and evening periods during an event) there is no guidance relating specifically to music noise. The World Health Organisation Guidelines, however, relate to all types of "neighbourhood noise", including "live or recorded music". The threshold values in that document (seen as the Lowest Observable Adverse Effect Level (LOAEL) to prevent annoyance during the day) for an outdoor living area are 50 to 55 dB $L_{Aeq,T}$. These levels are significantly higher than the levels being defined above, relating to the lower existing background noise levels. It is considered, therefore, that design to the lower thresholds set out will also ensure no significant impact on amenity enjoyed in outdoor living areas (i.e. gardens).

2.16 We propose to adopt the relevant limit for the number of events discussed for music noise, being a Music Noise Level, (MNL) of no more than 5 dB above the background noise level, $L_{A90,15mins}$, all measured externally to the building. This is derived from the "Pop Code" guidance outlined below. This criterion was discussed and agreed with Mid Suffolk District Council's EHO David Harrold during the consultation process for the recently withdrawn Prior Notification application (ref: DC/21/04091). This was subsequently agreed with Susan Lennard, EHO, who took over David Harrold's work following his departure from the council. Therefore, there has been a consistent approach to the use of this criterion.

2.17 The Noise Council Document "Code of Practice on Environmental Noise Control at Concerts (1995)" contains guidance that the background noise level (BNL) can be determined from the arithmetic average L_{90} over the last 4 hours of the event. In this case, that would be 19:00 hours to 23:00 hours. This is the approach taken to deriving MNL limits based on the measured BNL.

2.18 Table 2.2 below shows the recommended music noise levels level from the Noise Council Guide. Levels are measured 1m from any noise sensitive premises.

Table 2.2: Guideline Music Noise Levels (MNL):

Concert days per year	Venue Category	Guideline
1 to 3	Urban Stadia or Arenas	MNL should not exceed 75 dBA
1 to 3	Other Urban or Rural Venues	MNL should not exceed 65 dBA
4 to 12	All Venues	MNL not to exceed background noise level by more than 15 dBA in a 15 minute period
More than 12 and up to 30	Indoor Venues	MNL not to exceed BNL by more than 5 dBA in a 15 minute period

2.19 Background noise levels were established at the boundary measurement location (see details below) in April 2021. A background noise level (averaged over the four hours between 19:00 and 23:00 on a typical Saturday night) was established as 29 dB $L_{A90,15mins}$. It is considered that the 29 dB established by the surveys is representative of a typical background noise level over the final four hours of the evening and can be used to set noise limits for the sound system of up to 34 dB L_{Aeq}, being within 5 dB above typical background level.

2.20 Reference is also made to the World Health Organisation Guidelines "sleep disturbance" thresholds (45 dB L_{Aeq} and 60 dB L_{AMAX}, externally, as summarised in table 2.1 above) for activity from outside of the venue, such as people in the garden area and car parking activity at the end of an event.

3.0 Noise Assessment

Music Noise

3.1 A noise survey was undertaken at the boundary of the premises to be representative of the noise climate at the nearest residential premises situated to the north-west of the proposal in order to determine existing background levels at times representative of music at events. This was undertaken between 16th- 18th April 2021. This provides robust data given the Covid restrictions on movement prevalent at that time. The final four hours typical of an event 1900-2300 were considered, further to guidance contained within The Noise Council Document "Code of Practice on Environmental Noise Control at Concerts (1995)"

3.2 A Norsonic 140 type 1 sound level meter was used which was calibrated before the survey and checked after with no drift noted. The weather was warm and bright at around 18°C at the start of the survey with a light breeze suitable for noise measurements. 15 minute measurements were logged and L_{Aeq}, L_{Amax} and L_{A90} parameters measured. A summary of the relevant results is shown over the relevant time period. (Full results are available if required.) The monitoring position (MP1) is shown below as figure 3.1.

Figure 3.1: Monitoring Position:

3.3 Survey results are summarised in the following table 3.1. The four hours between 1900 and 2300 hours have been used. The hours chosen to be representative of an event further to guidance within the Noise Council document outlined in 2.14 above. The L_{A90} over these hours has been arithmetically averaged as per the guidance. The noise climate is dominated by distant road traffic noise from the A140 together with birdsong and occasional aircraft.

Table 3.1 Summary of survey results:

Monitoring Point	Time	L_{A90}	L_{A90}
Boundary		Range	Average
Saturday	1900-2300	26-33	29

Music Noise Mitigation Proposals

3.4 Sharps Redmore have been involved in many venues and have had experience of dance floor sound levels at such events. It is important to be aware that dance floors are not comparable to night club levels, due to the nature of the event. Recent projects have shown typical dance floor sound levels vary between 90-100 dB $L_{Aeq\ 5'}$.

3.5 To assess noise breakout, it is necessary to estimate what the typical, likely operational levels will be within the proposal as an event venue. To show an indication of likely levels, table 3.2 below summarises typical music levels, which SR have experienced at the internal perimeter of the proposal, i.e. the level incident on the structure to then break out through that structure.

Table 3.2: Typical Internal Perimeter Levels.(dBA 5'L_{eq}.)

Octave Band Centre Frequency Hz							
63	125	250	500	1k	2k	4k	8k
95	95	90	88	85	80	78	79

3.6 Consideration of attenuation over distance alone to the nearest residential development at 180m from the proposal is shown below in table 3.3, together with an indicative prediction of likely levels at the nearest residential receptor given differing internal levels. The following is considered representative for a conventional PA/Sound system, not a directional speaker system (e.g. a Zone Array). This is without any consideration of attenuation through the building structure and unmitigated.

Table 3.3: Indicative attenuation over distance alone to the nearest residential property at 180m and indicative levels from dancefloor levels:

Level inside venue	Distance attenuation	Level at nearest receptor
100 dB $L_{Aeq,5mins}$	45 dB	55 dB $L_{Aeq,5mins}$
95 dB $L_{Aeq,5mins}$	45 dB	50 dB $L_{Aeq,5mins}$
90 dB $L_{Aeq,5mins}$	45 dB	45 dB $L_{Aeq,5mins}$

3.7 In order to achieve the external criteria at the nearest residential property boundary, between 11 and 21 dB R_w is required from the structure of the barn, depending upon the required internal levels. For instance, if 95 dB L_{Aeq} was considered acceptable, and is typical for this type of venue, then the R_w requirement would be 16 dB, although a higher performance would provide robust criteria compliance. Further consideration would also need to be given to low frequency performance, particularly in the 63 and 125Hz octave bands representative of drums and bass within amplified music.

3.8 The barn is currently constructed from a combination of blockwork, slatted timber and a corrugated sheet material roof with poor acoustic qualities. Consequently, SoundPLAN modelling has been undertaken to demonstrate the use of a directional (Zone Array) speaker system and an acoustically lined marquee system within the barn. The Applicant will separately provide details of the directional Zone Array speaker system and marquee acoustic lining. The SoundPLAN model also provides cement board lining to the barn to effectively provide a solid elevation facing the nearest noise sensitive premises and to the north, west and east elevations. Boarding would be applied to the inner walls (and we are advised that this internal work does not need planning permission). The southern elevation is modelled as open and provides a robust worse case model assessment, because it comprises a wall. (Note that the wall is not complete or solid and it contains voids which can be used for mechanical ventilation or air conditioning, such that no voids for these purposes will be required to the N, E or W walls of the building to address previous comments of the EHO). This model can develop as the scheme progresses enabling specification of details and requirements. The effectiveness of building components will be demonstrated by further SoundPLAN modelling where required. The resultant SoundPLAN models are shown at Appendix B and demonstrate compliance with the agreed criterion given the required mitigation at the nearest noise sensitive premises and show there will be no adverse impact from music noise further afield at any local villages. The following mitigation factors are proposed:

- Acoustic mitigation, meeting the noise mitigation requirements, can and will be applied internally on the north, east and west elevations as shown.
- The noise mitigation measures outlined in this report, and on which the SoundPLAN report is based, take account of the existing external features of the building.
- These noise mitigation measures will be applied to the inside of the walls and the inside of the entrance.
- Internal doors will be robust. If required by the Planning Authority, self-closing acoustic doors could be provided between the lobby and the dance hall, although these are not required to meet the SoundPLAN modelling noise attenuation.

3.9 Consideration has been given to dancefloor levels of 90, 92 and 95 dB $L_{Aeq\ 5'}$. The resultant levels at the nearest residential property and nearby villages are shown by SoundPLAN models at Appendix B. Essentially these show a corresponding drop in levels with the lower dance floor levels. SoundPLAN calculates $L_{Aeq,T}$ and/or L_{Amax} levels at defined receptors in accordance with the relevant standards. The calculation is based on a number of input parameters including, source noise level data, receptor positions, barriers and screening,

topography and intervening ground conditions. The location and dimensions of the physical elements of the model such as location and dimensions of buildings, have been taken directly from architectural drawings, and OS mapping. The topography has been derived from online GIS data.

Further mitigation – self policing of operator's residential amenity

3.10 The nearest dwelling, approximately 30m from the proposal, is within the Applicant's control. This will effectively control noise levels to avoid disturbance to the operators and family.

Summary

3.11 It is considered that music noise levels from events, as predicted at the nearest receptor would not exceed the derived noise criterion of 34 dB $L_{Aeq,5mins}$ further to guidance within the Noise Council guide, with appropriate specification of the barn structure. Music noise would not have a significant impact on nearby residences, subject to the implementation of the mitigation measures set out below:

- Internal music noise limit of no greater than 95 dB $L_{Aeq,5mins.}$
- Perimeter noise monitoring to be undertaken at times during an event at the dance hall to ensure boundary levels are acceptable.
- Specification and installation of barn mitigation (eg acoustic noise boarding to be applied to the internal walls of the building to the N,E, and W sides also including pedestrian entrance) and directional speaker system (eg Zone Array).
- Provision and compliance with noise management plan

External Activity

3.12 It is expected that any daytime activity would be concentrated within the garden area. This is screened from the nearest residential properties by barns, providing in the region of 10 dB attenuation.

3.13 With this in mind, to assess a typical daytime usage of the outdoor area, we have based our assessment on a typical maximum number of 130 attendees, assuming 100% usage at any time to represent worst case.

3.14 Noise data for a group of people communicating with each other has been taken from text book data for different levels of communication, from *"Handbook of Acoustical Measurements and Noise Control", Cyril M Harris:*

Table 3.4: Communication levels

Type of communication	Noise Levels L_{Aeq}, dB at 1 metre	
	Male	Female
Casual	53	50
Normal	58	55

Raised	65	62
Loud	75	71
Shout	88	82

3.15 The calculations have been undertaken on the basis that people may typically engage in raised levels of conversation in the outdoor environment – a typical level of 64 dB L_{Aeq} is taken for 50% of the time – i.e. people do not talk continuously, nor will the space be occupied at all times.

3.16 The noise level from the group of people in the farmyard area can be calculated as follows:

Base Level at 1 metre	64 dB
Factor up for 130 people (10 Log 130)	+21 dB
Correction for distance (20 Log $_{1/180}$)	-45 dB
Barn screening factor	-10 dB
Total ($L_{Aeq, 1Hr}$) at nearest residential property	30 dB

3.17 This level is some 20 dB within the guideline values for daytime outdoor amenity space (50 dB minimum) and would be well below the existing ambient noise levels during the day and early evening when usage level would be expected to be at their highest. It is not considered that the use of an area outside during an event at the dance hall would, therefore, lead to any significant impact.

Other Noise Sources – Management Protocol

3.18 A noise management protocol will be introduced. This sets out methods to be adopted by the venue to control noise issues which, whilst falling outside of the scope of this general assessment (with the exception of the control of the music system), are important in minimising the impacts of any event. The management protocol will include measures to manage noise from the following sources:

- Music noise from DJ or Live Bands.
- Music noise from external sources such as a string quartet, harp or steel band.
- Disposal of glass bottles.
- Guests in external areas (especially after the event has finished).
- Guests' transport (i.e. coaches, cars and taxis).
- Fireworks or pyrotechnics (are not permitted at any event).

Car Parking Activity

3.19 Car parking areas are proposed to the immediate west, north and east sides of the barn, between approximately 175m to 215m metres away from the nearest noise sensitive premises. All cars parked here will leave along the driveway to the west of the premises onto Huggins Lane. Our assessment assumes all the car park activity in the hour after an event finishes is concentrated at an average distance of 180 metres of the nearest noise sensitive premises, and assumes a robust (but unlikely) scenario of 40 car movements occurring. However, we are advised that only 24 parking spaces are required to meet parking standards for the proposed use and as such the scenario used for noise modelling of 40 car movements is expected to be significantly in excess of actual car movements which would take place in the hour after the event. The equivalent continuous A weighted sound pressure level can be calculated for a series of events over a given time period as follows:

$$L_{Aeq,\,T} = L_{AE} + 10.\log N - 10.\log T$$

Where: *N = number of events during time T*

T = time period in seconds

3.20 The event noise level (L_{AE}) for car doors closing, engine starting and departing the space is 72 dB, measured at 10 metres. This can be converted into a L_{Aeq} level for 40 events in 1 hour as follows:

L_{AeqT} = 72 + (10.Log 40) – (10.Log 3600 seconds)

$L_{Aeq,1Hr}$ = 72 + 16 – 36 = 52 dB, at 10 metres

3.21 With distance (180 metres), this level would reduce by in the region of 25 dB, to no more than 27 dB $L_{Aeq,1Hr}$. Peak, L_{AMAX} levels, dictated by door slams, of 66 dB @ 10 metres, would reduce to around 41 dB at the nearest residential property.

3.22 These overall, and peak, levels are well within the guidance criteria for sleep disturbance at night and therefore it is not considered that noise from the car park activity would lead to any significant impact.

4.0 Assessment Conclusions

4.1 Noise emissions from music and external activity at the venue have been assessed, with the following results:

- Subject to certain physical mitigation and management measures, such as a directional Zone Array speaker system, internally applied boarding to three internal walls (including the western entrance) of the building and an acoustically lined marquee, music noise breakout can be controlled to meet strict thresholds at the nearest property, such that there would be no significant impact from this source of noise. A music noise level of up to 34 dB L_{Aeq} at the boundary, including the garden of the nearest noise sensitive premises, has been discussed and agreed with Mid Suffolk DC EHO during the consultation process for the recently withdrawn Prior Notification application (ref: DC/21/04091) and subsequent discussions with Susan Lennard, Mid Suffolk DC EHO for the Change of Use Application 21/06054. There were no objections to the proposal subject to certain conditions. The consultation comments and suggested conditions are shown at Appendix C.

- Noise from external activity in the garden area, based on 100% use of the area during an event, would be well within the guideline values at the nearest property and well below the existing noise climate, such that there would be no significant impact from this source of noise.

4.2 Therefore, on all methods of assessment, that there would be no significant adverse noise impact from the venue. The following recommendations and mitigation measures will be implemented:

- Internal music noise limit in the premises of a maximum of 95 dB $L_{Aeq,5mins.}$

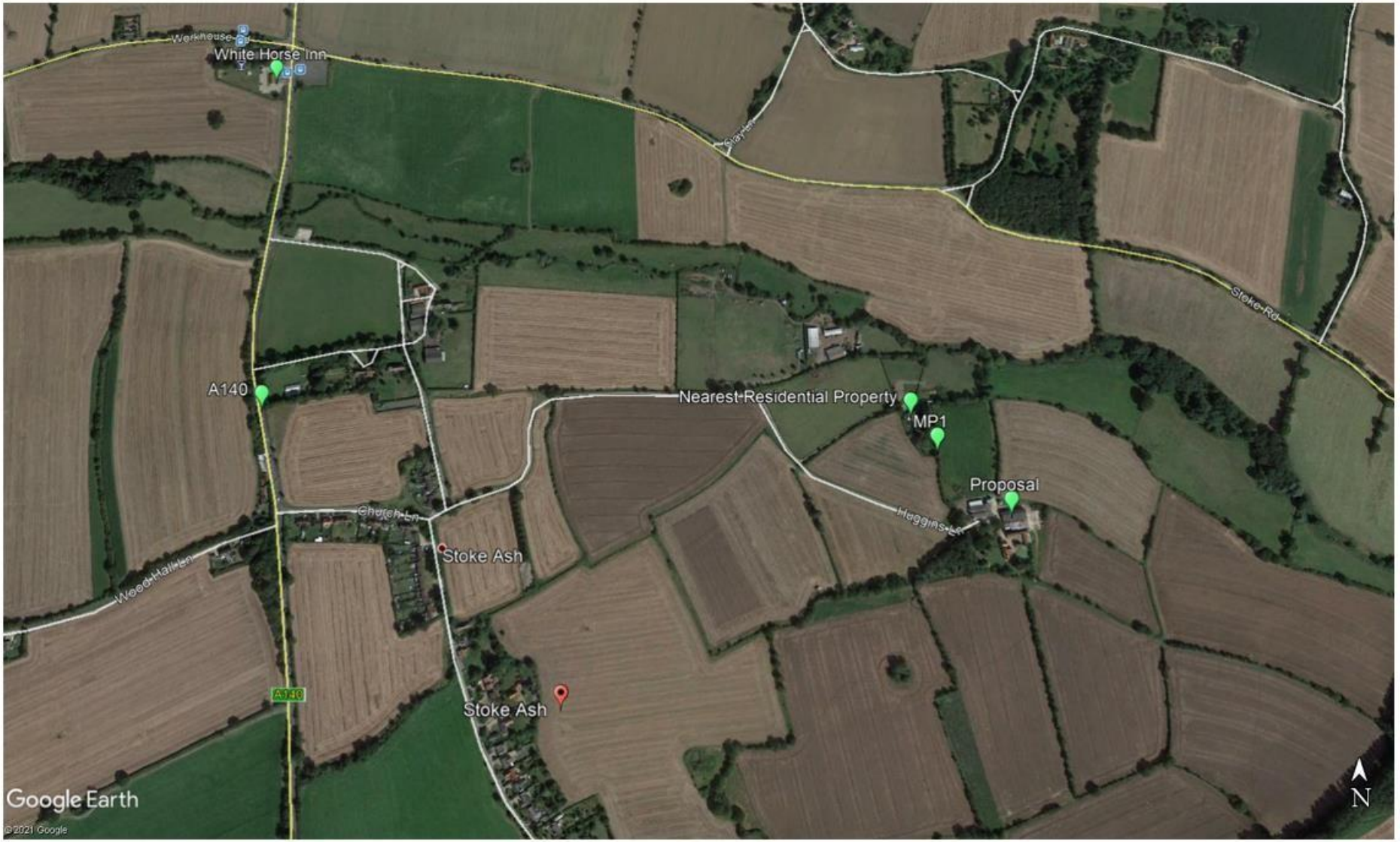
- Perimeter noise monitoring to be undertaken to ensure no excessive noise at the boundary.

4.3 A noise management plan is to be provided by the applicants outlining control measures which provide practical measures that can be employed to reduce the risk of unacceptable noise.

4.4 It is concluded that the venue can operate given the measures outlined above, without causing nuisance or significant impact from noise or detriment to the amenity in accordance with all relevant standards, National Planning Policy and local aims.

APPENDIX A

SITE LOCATION PLAN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Stoke Rd
A140
Nearest Residential Property
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Proposal
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Stoke Ash
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A140
Stoke Ash
Google Earth
©2021 Google
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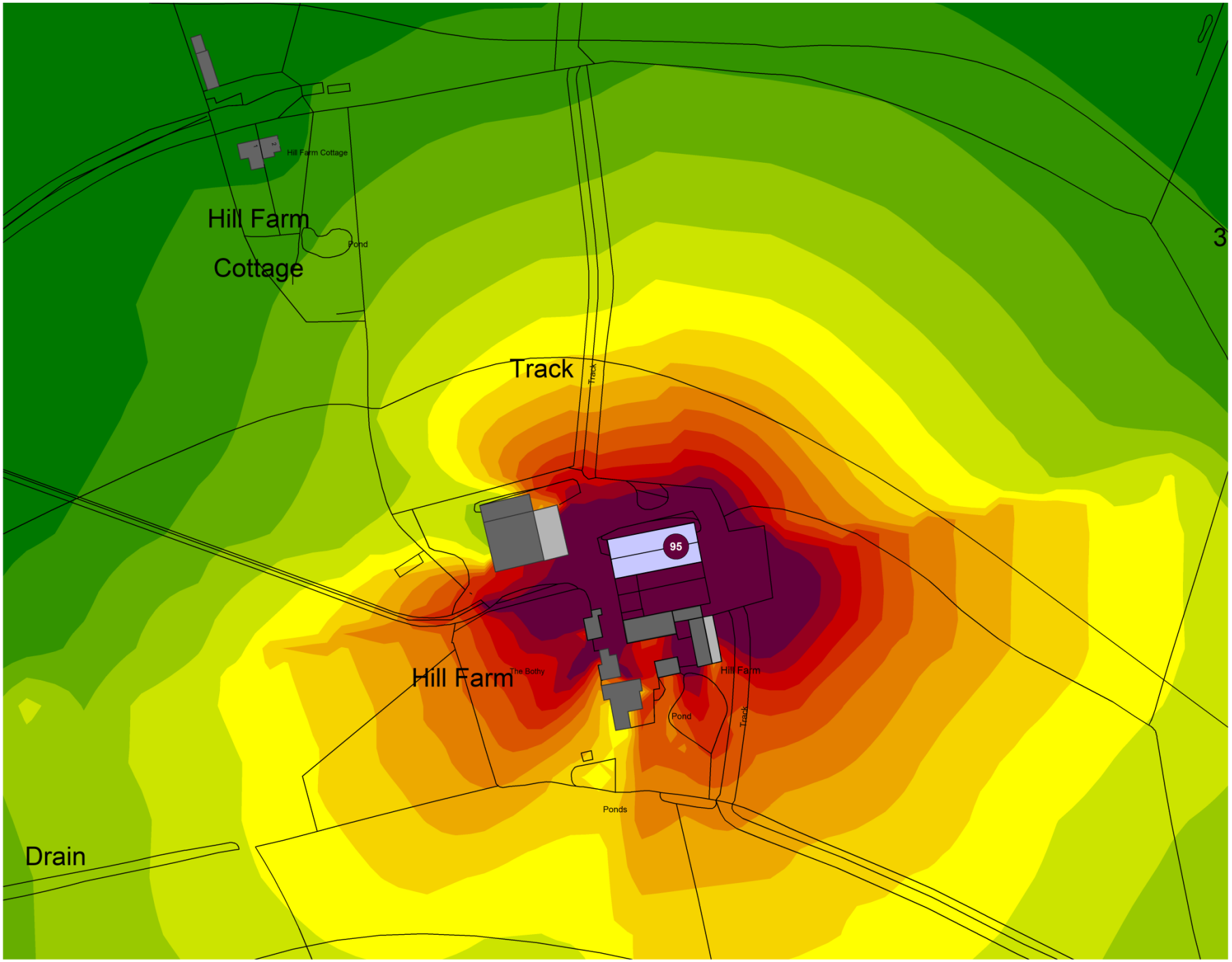
APPENDIX B

SOUNDPLAN MODEL PROPAGATION



Noise level
LAeq(T)
(dB)

		<=	29
29	<	<=	31
31	<	<=	33
33	<	<=	35
35	<	<=	37
37	<	<=	39
39	<	<=	41
41	<	<=	43
43	<	<=	45
45	<	<=	47
47	<	<=	49
49	<	<=	51
51	<	<=	53
53	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music Level 95dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:1800

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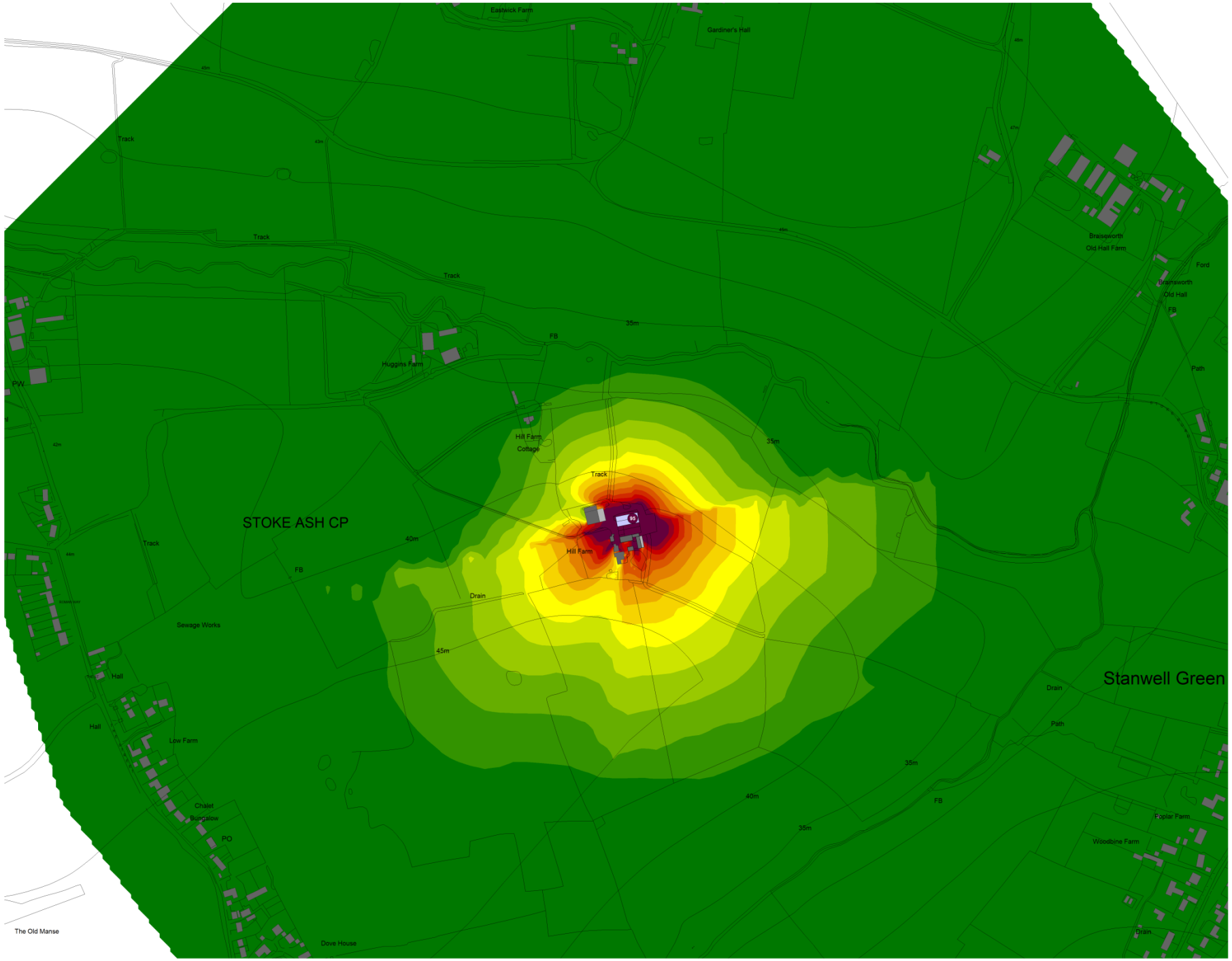

Noise level
LAeq(T)
(dB)

		<=	29
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31	<	<=	33
33	<	<=	35
35	<	<=	37
37	<	<=	39
39	<	<=	41
41	<	<=	43
43	<	<=	45
45	<	<=	47
47	<	<=	49
49	<	<=	51
51	<	<=	53
53	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music level 95 dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:7200

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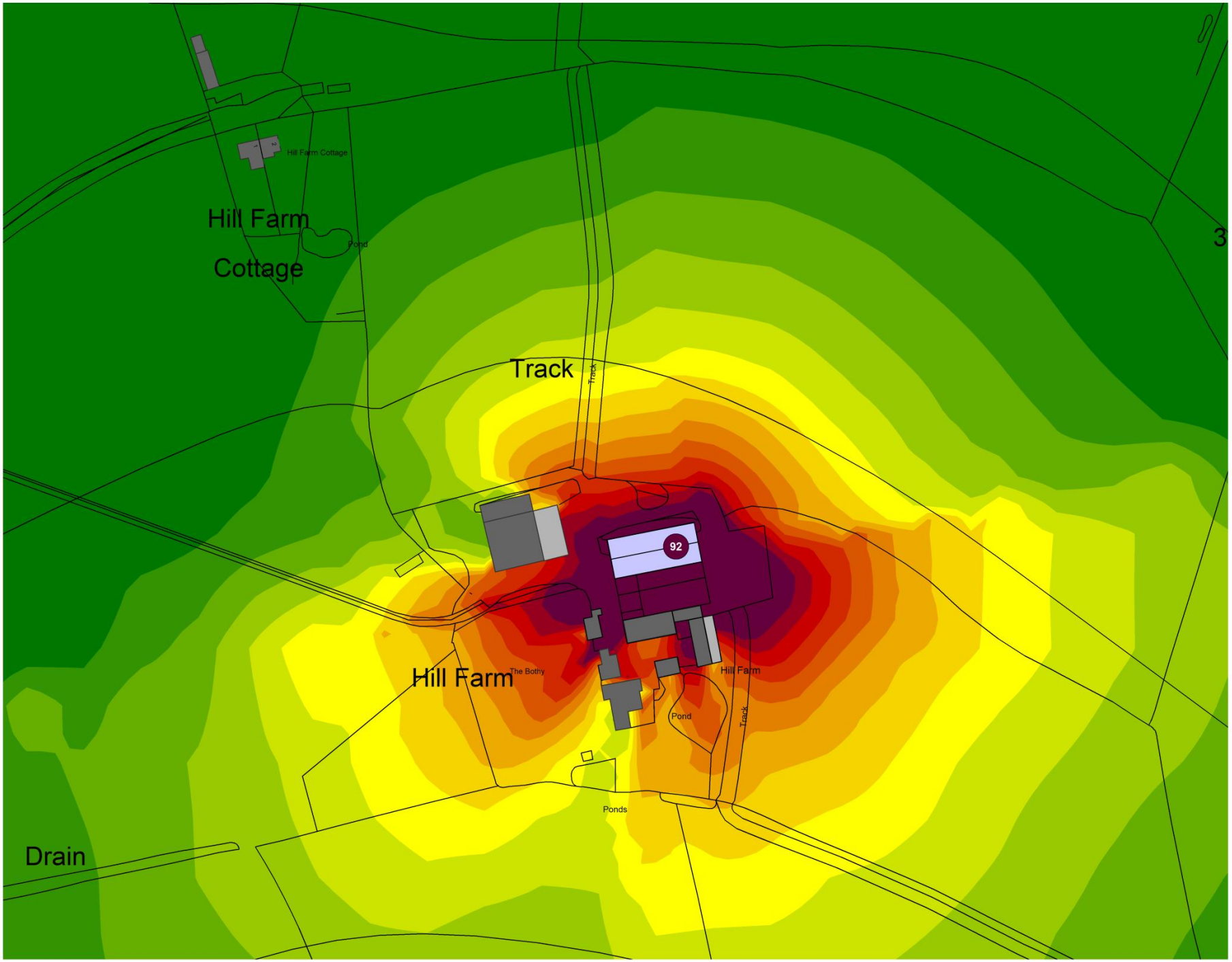

Noise level
LAeq(T)
(dB)

		<=	29
29	<	<=	31
31	<	<=	33
33	<	<=	35
35	<	<=	37
37	<	<=	39
39	<	<=	41
41	<	<=	43
43	<	<=	45
45	<	<=	47
47	<	<=	49
49	<	<=	51
51	<	<=	53
53	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music level 92dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:1800

0 5 10 20 30 40 50 60 m

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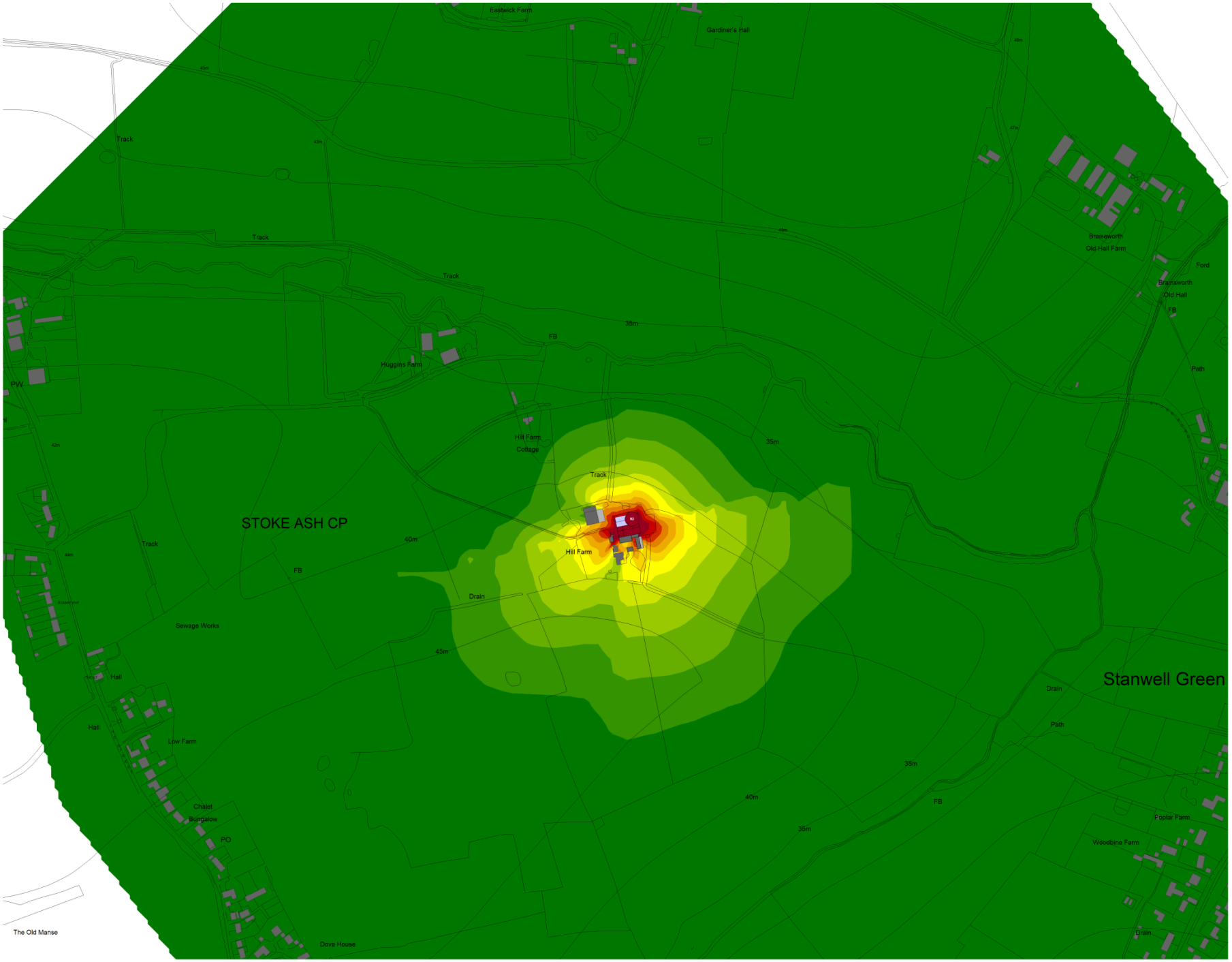

Noise level
LAeq(T)
(dB)

		<=	29
29	<	<=	32
32	<	<=	35
35	<	<=	38
38	<	<=	41
41	<	<=	44
44	<	<=	47
47	<	<=	50
50	<	<=	53
53	<	<=	56
56	<	<=	59
59	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music level 92 dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:7200

0 30 60 120 180 240 m

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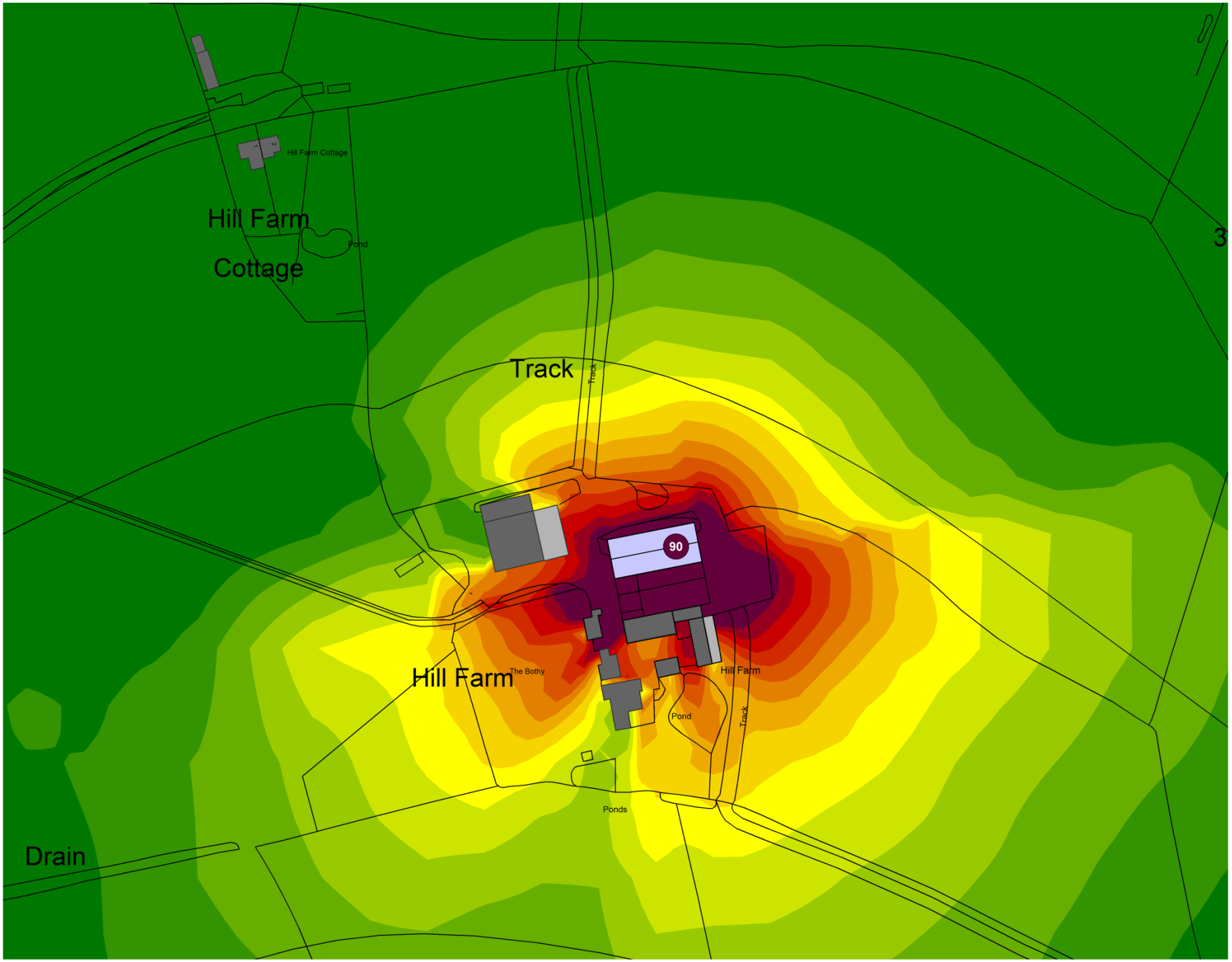

Noise level
LAeq(T)
(dB)

		<=	29
29	<	<=	31
31	<	<=	33
33	<	<=	35
35	<	<=	37
37	<	<=	39
39	<	<=	41
41	<	<=	43
43	<	<=	45
45	<	<=	47
47	<	<=	49
49	<	<=	51
51	<	<=	53
53	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music level 90dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:1800

0 5 10 20 30 40 50 60 m

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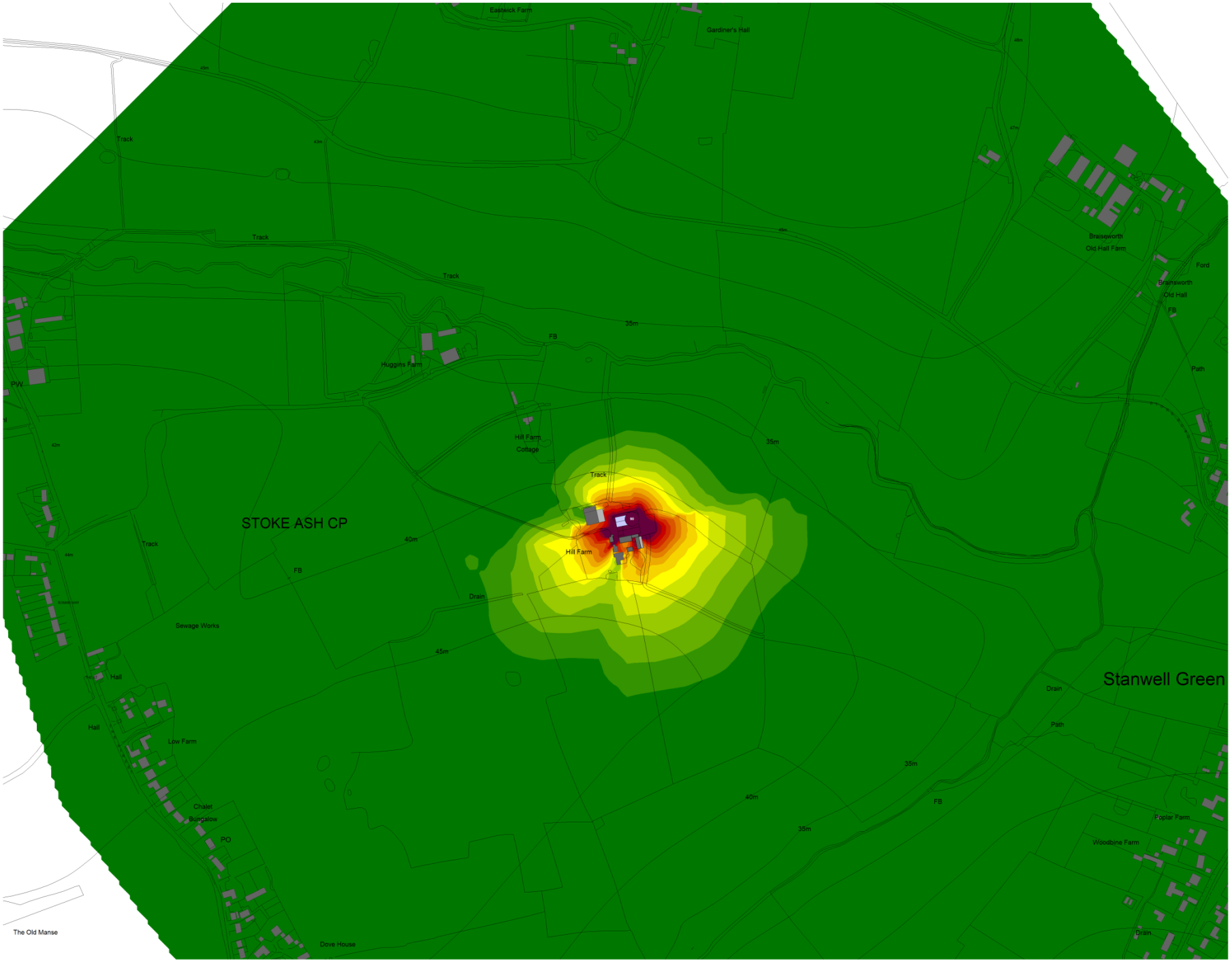

Noise level
LAeq(T)
(dB)

		<=	29
29	<	<=	31
31	<	<=	33
33	<	<=	35
35	<	<=	37
37	<	<=	39
39	<	<=	41
41	<	<=	43
43	<	<=	45
45	<	<=	47
47	<	<=	49
49	<	<=	51
51	<	<=	53
53	<		

Hill Farm, Stoke Ash

Zone Array with Lined Marquee inside Barn

Internal Music level 90 dB

LAeq(T)

Contour Grid / Calculations at 1.5m height

(Noise contour plot provided for indicative purposes only)

Project No: 2120307

Consultant: M. Court

Scale 1:7200

0 30 60 120 180 240 m

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APPENDIX C

MID- SUFFOLK EHO CONSULTATION COMMENTS

From: Susan Lennard
Sent: 20 December 2021 16:49

PLANNING APPLICATION NUMBER: DC/21/06054

PROPOSAL: Application to determine if Prior Approval is required for Change of Use of Agricultural Buildings to a flexible use within Storage or Distribution (Class B8) Hotels(Class C1) Commercial/Business/Service (Class E) uses previously classified as Assembly and Leisure (Class D2) Town and Country Planning (General Permitted Development) (England) Order 2015 as amended Schedule 2, Part 3; Class R. : Change of use of agricultural barn to dance hall.

LOCATION: Hill Farm, Stoke Ash, Eye, Suffolk.

OUR REFERENCE: 300412

COMMENTS IN RESPECT OF: Noise/Odour/Light/Smoke

I write with regard to the above planning application. Having reviewed the planning documents it is our understanding that;

- A planning application was submitted earlier this year **(DC/21/04091**) for ***change of use of an agricultural building to a wedding venue***. This application was withdrawn.

- Environmental Protection provided the following comments in respect of this application;

I note the noise assessment and report by Sharps Redmore, Acoustic Consultants dated 12 July 2021. The report refers to various guides and codes of practice used to assess noise impacts and in particular:

1.The Good Practice Guide on control of noise from pubs and clubs (Institute of Acoustics 2. Code of Practice on environmental noise control at concerts (Noise Council).
Although there are no specific assessment methods for entertainment noise at wedding venues, it is widely accepted that these guides are relevant and acceptable for use.

A noise survey was carried out at the times the venue will be open to establish a representative background noise level against which any noise impacts can be assessed. The monitoring demonstrates that the background noise climate is typical of a rural location and is very low (averaged at 29 dBA).The report describes internal entertainment noise of between 90 and 100 dB at the proposed venue and uses a noise model (SoundPLAN) to assess impact on the nearest noise sensitive dwelling without any sound insultation. In order to reduce noise to an acceptable level, the model predicts that the structure of the barn will need to achieve a sound reduction of 21 dB Rw, and this is technically possible.

If windows and doors, however, are left open, the sound insulation will not be effective and there may be adverse impacts. It may, therefore, be necessary to require sound-proof lobbies to entrances and mechanical ventilation or air conditioning to the entertainment area to keep the area cool, especially during the summer periods when the windows are kept closed.

I would recommend that these measures are made a condition of any approval of the development and would recommend that the applicant is required to submit detailed drawings of the wedding entertainment building to demonstrate that the roof, walls, windows, doors and any other mitigation measures (lobbies) achieve the necessary sound reduction.

I also understand that the applicant and family live at Hill Farmhouse adjacent to the proposed development. I would therefore recommend that planning permission is subject to the applicant continuing to own both properties and reside on site operating the venue.

To further safeguard neighbouring noise sensitive dwellings, I would recommend the following conditions to limit noise levels, and other control mechanisms:

1. *The LAeqT of the music based entertainment noise shall not exceed by more than 5 dB the background noise LA90 (without entertainment noise) at the boundary of any neighbouring noise sensitive dwelling or premises. Time period T will be 15 minute*

2. *The L10 of the music based entertainment noise shall not exceed the representative back ground noise L90 (without entertainment noise) as measured 1 metre from the façade of any neighbouring noise sensitive dwelling or premises by more than 5 dB in each octave band centred on 63Hz and 125Hz in any 5-minute period.*

    1. *Music based entertainment noise shall only occur inside the venue and between 13:00 and 23:00 hours only.*

    2. *Prior to the use of the premises for any event involving amplified music a sound limiting device must be fitted to a dedicated music and public-address system and set at a level approved by an authorised officer of the Local Planning Authority (typically Environmental Health Officer). The operation panel or control mechanism of the noise limiter shall be secured by an agreed method. Access thereafter shall be prohibited and only authorised by the owner or premises licence holder. Once set, the maximum operating internal music entertainment level shall be measured, documented and reported to the Local Planning Authority prior to the use of the premises.*

    3. *No fireworks shall be let off or shall any Chinese style lanterns be released in association with the use of the premises for any event.*

Reason: To prevent adverse impact from noise on the quality of life and health of occupiers in neighbouring residential premises.

- This application is a resubmission applying for '***change the proposed use of the building to a dance hall'.***
- No details have been provided with regard to the nature and frequency of events proposed***.***
- Hill Farm is under the ownership and occupation of the applicant.
- The nearest residential property is to the NW of the application site. The boundary of this property is approximately 100 metres from the application building.

- Planning permission 2259/11 was granted for the ***Change of use of bull pen to holiday accommodation at Hill Farm.***

- Planning permission was granted 19/02353 for the ***Change of use of land for the stationing of up to 8no. glamping tents at Hill farm***.

- The application documentation contains a number of noise submissions as follows;

ACOUSTIC ASSESSMENT

SUBMITTED BY SHARPS REDMORE: November 2021.

This report states that;

- A music noise level of up to **34dB LAeq** at the boundary, including the garden of the nearest noise sensitive premises, has been discussed and agreed with BAMSDC EHO during the consultation process for the recently withdrawn application **DC/21/04091**.

- Noise from external activity in the garden area, based on 100% use of the area during an event, would be well within the guideline values at the nearest property and well below the existing noise climate, such that there would be no significant impact from this source of noise.

- Internal music noise limit would be set at a maximum of **95 dB LAeq,5mins**.

- Perimeter noise monitoring is to be undertaken to ensure no excessive noise at the boundary.

- The venue can operate given the measures outlined, without causing nuisance or significant impact from noise or detriment to the amenity in accordance with all relevant standards.

ACOUSTIC MITIGATION DESIGN

SUBMITTED BY DIRECT ACOUSITICS: 1.11.2021. **Plan submitted by Les Andrews Architect (Drawing 2130/04 Nov 2021)**

This report outlines that

- All amplified music at Hill Farm must be operated through a highly directional modular speaker system **(Zone Array).**

- This would be used in conjunction with a digital signal process-limiter (sound limiter) to control output power (volume) of the DJ connecting directly into the system.

- Frequency specific limiting software within the system will be used to remove/control specific frequencies.

- The system can be set up and password protected in conjunction with the local authority to prevent tampering.

- **MAL22 acoustic lining** is proposed for the frame of the marquee and sections of the barn are proposed to be wrapped in 12mm concrete board.

- The plan shows a large entrance lobby.

- If live music is to take place, the non-amplified nature of instruments and equipment associated with live acts is to be considered i.e. drum kits, guitar amplifiers and stage wedge monitors. Direct Acoustics advises that the will ***'offer further assistance upon installation by reaching out to visiting acts and outlining the regulations they must follow to use the Zone Array and meet requirements set by Sharps Redmore and the local council*.**

- The report concludes that these measures in conjunction with an internal volume **of 95dB L Aeqt3min** will achieve a maximum of **34dBA**
  L Aeq T5min at the boundary of the nearest noise sensitive receptor with capacity to reduce the internal volume level if required by up to 5dBA in order to meet conditions. Direct Acoustics advise they would liase with Sharps Redmore and the Council to commission the final volume levels and ensure that all pertinent acoustic criteria is met.

NOISE MANAGEMENT PLAN

SUBMITTED BY DIRECT ACOUSTICS 1.11.2021

This report outlines onsite management measures for the control of noise to include ' ***Venue staff will conduct regular circuits to ensure compliance with the Noise Management Plan and to monitor noise levels' and further that 'any excessive noise will be managed by venue staff such that it is adequately reduced as quickly as possible'*** and ***'Except in the case of normal ingress and egress, all external doors and windows of the building shall be kept closed when regulated entertainment is being provided except in the event of an emergency***.

Further to the submission of the noise reports outlined above, I have discussed the proposals further with Mr Adam Alfrey of Direct Acoustics and am in receipt of an e mail from Sharps Redmore Acoustic consultants dated the 14.12.2021 which outlines that;

The mitigation measures described in the report submitted to accompany the planning application (ref: 2120307) will enable the use of the premises to operate at no more than 5dB above background levels at the nearest noise sensitive premises. SoundPLAN modelling shown in the report demonstrates this and is shown allowing for openings (eg windows/doors/voids) to the southern elevation of the building to remain open as required for ventilation. There will be no openings to the northern elevation facing the nearest noise sensitive premises. These voids/openings on the southern elevation still enable the use to operate at no more than 5dB above background at the nearest noise sensitive premises.

Having regard to the above, we would wish to recommend the following;

CONDITIONS

1.All noise mitigation measures undertaken in connection with this application shall be implemented in accordance with the specifications and recommendations contained within the reports outlined above and specifically the use of the highly directional modular speaker system (Zone Array) as specified by Direct Acoustics within their mitigation report dated 1.11.2021.
Furthermore prior to the commencement of use of the building, we shall require confirmation of the report findings and recommendations by way of the submission of post installation testing and noise measurements to demonstrate that the mitigation, once in situ, achieves the required sound reduction and target noise levels. Should the measurements demonstrate mitigation does not accord to the agreed levels, there shall be no use of the building for amplifies music or entertainment until such time as a further migration scheme is agreed in writing by the LPA.
The approved scheme and system as proposed by Direct Acoustics shall be used on each and every occasion entertainment takes place and thereafter during the lifetime of the development being in beneficial use.

2. The LAeqT of the music based entertainment noise shall not exceed by more than 5 dB the background noise LA90 (without entertainment noise) at the boundary of any neighbouring noise sensitive dwelling or premises. Time period T will be 15 minutes.

3.Music based entertainment noise shall only occur inside the venue and between 13:00 and 23:00 hours only.

4. No speakers or public address systems shall be located outside the building.

4.Prior to the use of the premises for any event involving amplified music a sound limiting device must be fitted to a dedicated music and public-address system, set at a level approved by an authorised officer of the Local Planning Authority (typically Environmental Health Officer). The operation panel or control mechanism of the noise limiter shall be secured by an agreed method. Access thereafter shall be prohibited and only authorised by the owner or premises licence holder. Once set, the maximum operating internal music entertainment level shall be measured, documented and reported to the Local Planning Authority prior to the use of the premises.

5.No fireworks shall be let off or shall any Chinese style lanterns be released in association with the use of the premises for any event.

6. A site specific noise management plan (NMP) shall be submitted to and approved by the LPA prior to commencement of use of the building.

Reason: To prevent adverse impact from noise on the quality of life and health of occupiers in neighbouring residential premises.

With kind regards

Sue Lennard