



Three Spires Acoustics Ltd

Enabling event success & regulatory compliance since 2008

Field Day Festival 2019

Orbital Business Park, Argon Way,
Edmonton, Enfield, N18 3HF

Friday 7th & Saturday 8th June 2019

Event Noise Management Plan

for Ground Control UK Ltd

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FIELD DAY FESTIVAL 2019

NOISE MANAGEMENT PLAN

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1. NON-TECHNICAL SUMMARY

- 1.1.1 Three Spires Acoustics Ltd (TSA) have been commissioned by Broadwick Live Ltd to assist with event noise control at the Field Day Festival 2019, which is due to take place at Orbital Business Park, Argon Way, Edmonton, Enfield, N18 3HF, on Friday 7th and Saturday 8th June 2019.
- 1.1.2 Field Day Festival has an established pedigree as one of the capitals premier weekend events dating back to 2007 in Victoria Park and relocating last year to Brockwell Park. The 2019 intention combines an exciting new proposition and location in the London Borough of Enfield.
- 1.1.3 Whilst tens of thousands of people will enjoy the festival, there are potential negative impacts associated with the event which have to be managed and minimised to ensure that the Licensing Act 2003 (LA03) objectives are promoted and upheld.
- 1.1.4 The event is subject to a Premises Licence application under the requirements of the Licensing Act 2003. The act promotes four objectives which aim to ensure that the carrying on of licensable activities on or from premises is done in the public interest. The third licensing objective is the prevention of public nuisance and applicants must demonstrate within their operating schedule the means by which they intend to meet this objective.
- 1.1.5 The s.182 guidance which accompanies LA03 states that licensing authorities should adopt the "broad common law" meaning of Public Nuisance which deals with unreasonable interferences with the comfort of the general public.
- 1.1.6 Nuisance, be it public or statutory, is assessed qualitatively in terms of factors including frequency of event, duration, time of day, absolute level and characteristics of noise, nature of the locality etc. The threshold is a high one: substantial or unreasonable interference with the comfort or ordinary use of property.

1.2 Rationale Behind Music Noise Limits

- 1.2.1 The proposed day time music noise limits align with the national Code of Practice on Environmental Noise Control at Concerts 1995. It can be argued that, as the guidelines were produced before the introduction of the Licensing Act 2003 and have been designed to "minimise disturbance" this is a lower threshold than required than required by the Act, which requires the prevention of public nuisance.
- 1.2.2 The festival occurs for two days in the year on Friday and Saturday from 12:00 to 04:00. Therefore 32 hours of music are proposed within a whole year (8,760 hours in year) which equates to 0.37% of the time.
- 1.2.3 Regarding night-time music noise levels, the CoP recommends inaudibility internally. Case law¹ has determined that inaudibility is not a condition which is compatible with the

¹ R (Developing Retail Ltd) v South East Hampshire Magistrates Court, Administrative Court, 4th March 2011

Licensing Act 2003 requirements, as it would be imprecise, unreasonable and disproportionate with the Act's objectives.

1.2.4 Therefore, a night time limit has been designed that is below the permitted level defined within Noise Act 1996 i.e.

- NA96 Permitted Level = 34dB LAeq,5minutes, measured internally with windows closed.
- This approximates to 49dB LAeq,5minutes externally (applying 15dB window attenuation as per BS8233:2014) and 59-64 (windows closed 25-30dB of attenuation)
- The proposed night-time music noise limit for Field Day 2019 is 45dB LAeq,15minute, which equates to 30dB(A) internally, (windows partially open), therefore the night-time requirements are more stringent than those applied by the Noise Act 1996 and considered to align with the requirements of the Licensing Act's objectives.

1.2.5 The night time limit also aligns with the World Health Organisation (WHO) Community noise guidelines of 30dB LAeq,T internally (allowing for 15dB partially open window attenuation)

1.2.6 The research that informed the Noise Act 1996 indicated that at lower levels the A weighted Leq,T metric provided the best indicator of community annoyance. However, a low frequency limit has also been applied in order to take account of some of the problems associated with modern music and the "repetitive bass beat" which anecdotally can cause annoyance, thus the proposals go further than those required by the Noise Act 1996 or WHO guidelines.

1.2.7 Comparison with the limits imposed at other urban and rural similar festivals within the UK, indicate that the requirements are at least comparable to and in many cases more stringent than several others, with many festivals not requiring any low frequency control limits for either day or night times.

1.3 Music Noise Predictions and Sound Test

1.3.1 Noise predictions have been undertaken to determine the sound propagation characteristics between the proposed music stages and those living nearby who might be affected by noise. The outcome indicates that proposed music noise limits will be achieved in all locations and will be below the existing ambient noise environment in several of the offsite locations for both day and night time situations.

1.3.2 A sound test has also been undertaken for Stage 2 which validates the noise predictions and confirms that the venue is a viable location for the proposed event.

1.4 Event Management Controls

1.4.1 A comprehensive system of noise management controls will be implemented for the duration of the event which promote the licensing objective of the prevention of public nuisance and include;

- Sound system design to reduce noise pollution from the site.
- Five noise consultants will be available on and offsite for the duration of the festival to undertake noise management functions.
- A total of four monitoring locations at agreed points with the Local Authority. The most noise sensitive will have permanent noise monitoring stations for the duration of the event. These will be connected via web enabled technology so that they can be viewed in real time at a central control point. Other locations will be visited on a rotational basis and visits are also made in response to noise complaints.
- All stages will have sound monitoring equipment which will be networked to enable real time viewing of the data at the central control point. This allows for a quick response if intervention is necessary.
- Community impact response will be undertaken where requested by residents who are concerned about noise levels.
- Daily meetings with Environmental Health Staff at LB Enfield will be undertaken to discuss issues as they arise and prioritise locations and sources of noise should this be necessary.

2. CONCLUSION

- 2.1.1 It is considered that the rationale for the music noise limits is justified and aligns with national and international guidance and standards and the music noise limits are set at appropriate levels in accordance with the requirements of the Licensing Act 2003 to promote the prevention of public nuisance.
- 2.1.2 Noise predictions and sound testing have been undertaken which confirm that the venue is a viable location for the proposed event.
- 2.1.3 From my experience at many other outdoor concerts and festivals throughout the UK, I consider that the proposed music noise limits are at least equivalent to and in many cases, more comprehensive than other similar festival premises licence conditions.
- 2.1.4 A comprehensive noise management system including: sound system design, noise monitoring and community engagement will be in place to promote the LA03 objective and the licence holder and promoters are committed to a continual improvement strategy.
- 2.1.5 It is therefore considered that the Noise Management Plan adequately demonstrates that the event will promote the Licensing Act 2003 objective of the prevention of public nuisance and therefore, from a noise control perspective, can be granted a Premises Licence

3. INTRODUCTION

3.1 General

- 3.1.1 Three Spires Acoustics Ltd (TSA) have been commissioned by Broadwick Live Ltd to assist with event noise control at the Field Day Festival 2019, which is proposed to take place at Orbital Business Park, Argon Way, Edmonton, Enfield, N18 3HF, on Friday 7th and Saturday 8th June 2019.

The Noise Management Plan (NMP) has been required by the client in order to detail the noise management methodology that will be implemented in order to demonstrate how the operation of the festival will promote the LA03 objective of the prevention of public nuisance from live and recorded amplified music as required by the Licensing Authority at the London Borough of Enfield.

3.2 Consultants Experience

Three Spires Acoustics is an acoustic consultancy specialising in providing advice to the entertainment industry and licensing authorities on matters relating to the management of sound and regulatory compliance at outdoor and indoor events.

The team of consultants have experience dealing with many outdoor concerts and events throughout the UK, with clients including; Braodwick Live, Ground Control, BBC, SkyTV & Burberry and events ranging from Parklife, Field Day, Bluedot Festival, Proms in the Park at Hyde Park to SW4 Dance Festival at Clapham Common.

Consultants have membership of the Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH) and the Institute of Licensing (IOL) and several members of staff have a regulatory or sound engineering background.

As well as the provision of sound and acoustic design/management for entertainment venues, the company deals with a range of noise and regulatory control issues and our staff have presented expert testimony at planning and licensing hearings.

3.2.1 Professional Associations

Members of The Institute of Acoustics (MIOA)

Members of The Institute of Licensing (AMIOL)

Members of the Chartered Institute of Environmental Health Officers (MCIEH)

4. SITE AND EVENT DESCRIPTION

- 4.1.1 Field Day Festival 2019 is an eclectic music festival which is due to take place at Orbital Business Park, Argon Way, Edmonton, Enfield, N18 3HF, on Friday 7th and Saturday 8th June 2019.
- 4.1.2 Field Day Festival has an established pedigree as one of the Capitals premier weekend events dating back to 2007 in Victoria Park and relocating last year to Brockwell Park. The 2019 intention combines a new proposition and location in the London Borough of Enfield.
- 4.1.3 The festival site occupies an area of open land and unoccupied warehousing at Orbital Business Park, which is a large industrial and business park in Edmonton, North London. The festival consists of a main stage and three tented big top type stages and two further stages located within the unoccupied warehouses along with various event spaces, concession stalls and bars. Live and recorded music forms part of the regulated entertainment, which will be subject to premises licence conditions related to noise control. An aerial photograph of the site is presented in Figure 1 below. A plan layout is presented in Appendix A.

Figure 1. Aerial Map of Event Site



4.2 Proposed Operating Schedule

4.2.1 The proposed operating schedule for the event is detailed in Table 1 below. The site build will run from 24th May to 6th June and the site break from 9th to 17th June 2019.

Table 1. Proposed Operating Schedule(Regulated Entertainment)

		THURSDAY		FRIDAY		SATURDAY		SUNDAY		
		Open	Close	Open	Close	Open	Close	Open	Close	
	BOX OFFICE	-	-	12:00	21:00	12:00	21:00	-	-	
	ARENA	-	-	12:00	04:00 (ND)	12:00	04:00 (ND)	-	-	
	WAREHOUSES	-	-	12:00	04:00 (ND)	12:00	04:00 (ND)	-	-	
	FOOD TRADERS	-	-	12:00	04:00 (ND)	12:00	04:00 (ND)	-	-	
	MAIN STAGE - Stage 1 (outdoor)	25,000 cap	-	-	12:00	22:30	12:00	22:30	-	-
	2 nd STAGE - Stage 2 (UNIT 5)	7,100 cap	-	-	12:00	04:00 (ND)	12:00	04:00 (ND)	-	-
	3 rd STAGE - Stage 3 (tent)	5,000 cap	-	-	12:00	22:30	12:00	22:30	-	-
	4 th STAGE - Stage 4 (UNIT 9)	2,300 cap	-	-	12:00	22:30	12:00	22:30	-	-
	5 th STAGE - Stage 5 (tent)	1,500 cap	-	-	12:00	22:30	12:00	22:30	-	-
	VIP	TBC	-	-	12:00	04:00 (ND)	12:00	04:00 (ND)	-	-

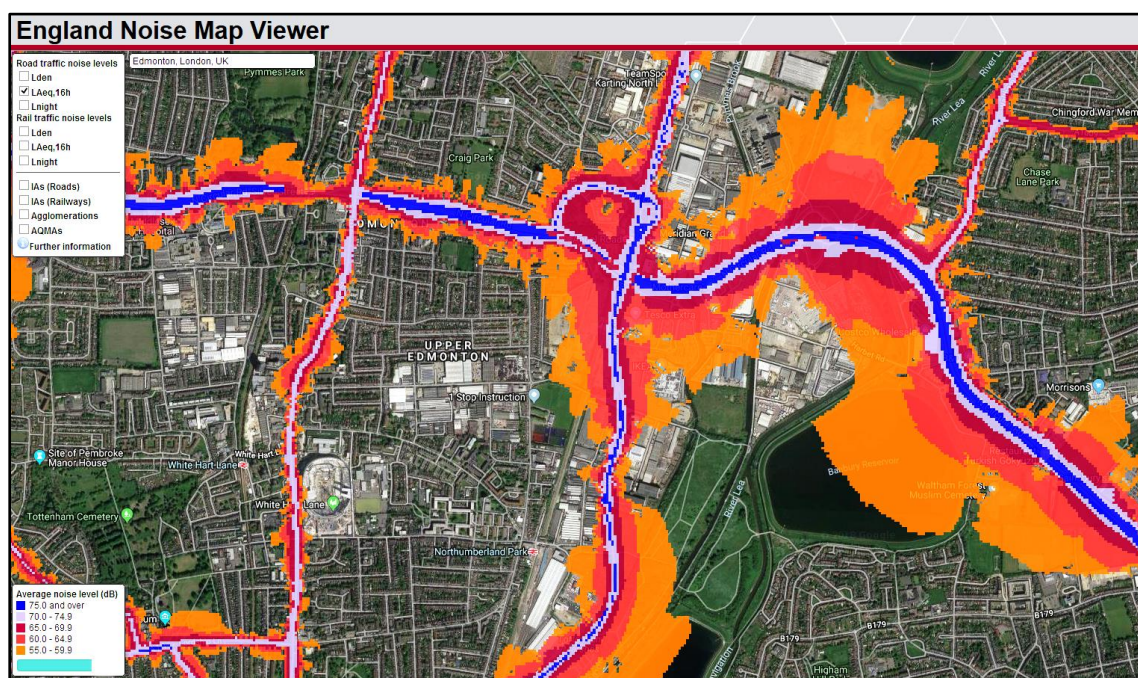
4.3 Acoustic Environment

4.3.1 The area around the site is that of a urban outer city location with major road and rail networks close to existing commercial/industrial and residential properties. The acoustic environment is likely to be dominated by transportation noise from road vehicles and passenger trains using these arterial routes as well as local traffic and commercial premises related noise.

4.3.2 DEFRA has published strategic noise map data that provide a snapshot of the estimated noise from major road and rail sources across England in 2012. The data was developed as part of implementing the Environmental Noise Directive. The noise contour map for the area around the site is presented in Figure 2 below and includes the modelled LAeq,16hour noise contours for the major road. Note that the contours do not include rail contours or industrial noise so the actual levels are likely to be higher.

4.3.3 The map indicates that area to the north and east of the site are likely to experience noise exposure from daytime transportation noise between 55 to 75dB LAeq,16hour. The residential area of Higham Hill to the south of the site and close to Banbury Reservoir is likely to experience noise below 55dB LAeq,16hour.

Figure 2. DEFRA Noise Contour Map



5. REGULATORY FRAMEWORK

5.1 Licensing Act 2003

5.1.1 The explanatory notes to the Act state that it provides for a unified system of regulation of the activities of the sale and supply of alcohol, the provision of regulated entertainment, and the provision of late night refreshment. In the Act, these activities are referred to collectively as “the licensable activities”.

5.1.2 The purpose of the system of licensing for licensable activities is to promote four fundamental objectives (“the licensing objectives”). Those objectives are –

- the prevention of crime and disorder;
- public safety;
- the prevention of public nuisance; and
- the protection of children from harm.

5.1.3 The system of licensing is achieved through the provision of authorisations through personal licences, premises licences, club premises certificates and temporary event notices. The objective regarding the prevention of public nuisance is most often linked to noise and the explanatory notes to the Act advise that “The four licensing objectives aim to ensure that the carrying on of licensable activities on or from premises is done in the public interest. The third licensing objective, the prevention of public nuisance, will not extend to every activity which annoys another person but will cover behaviour which, when balanced against the public

interest, is found to be unacceptable.” Applicants for a licence must demonstrate within their operating schedule the means by which they intend to meet this objective. When noise is being considered, Local Authority “responsible authorities” (typically Environmental Health departments), must have regard to this objective when considering making a representation or applying for a review of a Premises Licence.

5.2 Public Nuisance

5.2.1 Responsible authorities and other persons (formerly “interested parties”) may make representations based on the public nuisance objective. Neither the Licensing Act 2003 nor the Statutory Guidance define public nuisance, although the Guidance states that licensing authorities should adopt the “broad common law” meaning. In summary, the common law states that public nuisance means.

- Any nuisance is “public” which materially affects the reasonable comfort and convenience of the life of a class of her Majesty’s subjects.
- Public nuisance is a nuisance which is so widespread in its range and indiscriminate in its effect that it would not be reasonable to expect one person to take proceedings on his own to put a stop to it; but that it should take on the responsibility of the community at large.
- The question whether the local community within that sphere comprises a sufficient number of persons to constitute a class of the public is a question of fact in every case.
- A sufficiently large collection of private nuisances i.e. to more than one person/household, can be a public nuisance.
- Nuisance is assessed qualitatively in terms of factors including frequency of event, duration, time of day, absolute level, etc. and must materially unreasonably interfere with the ordinary use of property

5.2.2 Therefore, with respect to the promotion element of the public nuisance objective, operators and responsible authorities can place proportionate restrictions and conditions on a licence, where appropriate to ensure that noise from regulated entertainment is below the threshold for public nuisance; appropriate to the circumstances of the proposed or actual licensed premises, taking into account those who may be affected by noise associated by the operation of a license.

5.3 Conditions

5.3.1 The guidance which accompanied the Licensing Act 2003 states that each application must be considered on its own merits. Any conditions attached to licences and certificates must therefore be tailored to the individual style and characteristics of the premises and associated events taking place and standardised conditions applied to every licensed premises should be avoided.

5.3.2 Case law and Statutory Guidance confirms that conditions attached to a licence must be appropriate to promote one or more of the four licensing objectives. Any conditions must also be expressed in unequivocal and unambiguous terms to avoid legal dispute. Conditions must also be precise and proportionate, and should avoid duplication of existing legislation such as Health & Safety at Work etc. Act 1974 and the Environmental Protection Act 1990 (EPA).

5.4 Inaudibility

5.4.1 Inaudibility conditions have been popular in the past but have faced sufficient criticism in the courts, e.g. R (Developing Retail Ltd) v South East Hampshire Magistrates Court, Administrative Court, 4th March 2011, and now have been determined that the phrase is incompatible with the requirements of the Licensing Act 2003 and planning requirements, as it is imprecise, unreasonable and disproportionate with the Licensing Act 2003 objectives or planning requirements under National Planning Policy Guidance (NPPG) 2014.

5.1 Noise Act 1996 and Licensed Premises

5.1.1 The powers under the Noise Act 1996 are in addition to those possessed by local authorities under the Environmental Protection Act 1990 and the Noise and Statutory Nuisance Act 1993 on statutory nuisance.

5.1.2 Following a complaint of excessive noise being emitted from licensed premises between 23:00 hrs and 07:00 hrs, Local Authorities may investigate under the Noise Act 1996 (as amended by the Clean Neighbourhoods and Environment Act 2005). If they consider the noise to be exceeding the “permitted level”, they can serve a warning notice on the person they consider to be responsible.

5.1.3 If the noise persists after the warning notice has been served, the Local Authority can measure the noise against the “permitted level”. It is an offence to exceed the permitted level and offenders can be issued with a Fixed Penalty Notice (£500 for licensed premises) at that time or later, or can be prosecuted.

5.1.4 The “permitted level” (as set out in The Permitted Level of Noise (England) Directions 2008) is 34 dBA, if the underlying level of noise is no more than 24 dBA; or 10 dBA above the underlying level of noise where this exceeds 24 dBA.

5.1.5 The Measuring Devices (Noise Act 1996) (England) Directions 2008 approves devices that can be used to measure noise, containing requirements for their verification and calibration and sets out how measurements of noise must be conducted.

5.2 Research that Informed the Noise Act 1996

5.2.1 DEFRA- Noise From Pubs And Clubs Phase II-NANR-163 May 2006

- 5.2.2 NANR 92 informed the “Noise from Pubs and Clubs Phase II” (NANR 163) research, which in turn provided the justification for the application of the Noise Act 1996 (as amended by the Clean Neighbourhoods and Environment Act 2005) to licensed premises.
- 5.2.3 The research looked at the subjective response of individuals using a range of quantitative measures derived from physical measurements of entertainment noise established in Phase 1 of the project described above. The objective of the research was to establish an effective methodology for internal noise assessment of one-off type music events from licensed premises between 23:00 hrs to 07:00 hrs.
- 5.2.4 However, part of the research included controlled testing and field trials which also examined the correlation of external noise assessment methods with subjective response of individuals regarding the acceptability of entertainment noise levels, judged as a regular event. The metrics which provided the best overall correlations with subjective response for assessment of entertainment noise and which are pertinent to the Licence Review are discussed below .
- 5.2.5 Absolute LAeq & LCeq**
- 5.2.6 Both the LAeq and LCeq metrics had stronger correlations than other metrics for external assessment of noise from entertainment events. However, the report stated that an entertainment noise criteria based on absolute LAeq or LCeq, would be difficult to use where the existing ambient noise level without the entertainment noise was close to, equal to, or above the threshold level and would need to be used in conjunction with subjective judgment. This is likely to be more of a problem for an external assessment situation, but can be allowed for by using decibel subtraction because the metric is based on the overall noise energy in the assessment period rather than the distribution of noise levels during the measurement.

6. NOISE GUIDANCE AND STANDARDS

6.1 Code of Practice on Environmental Noise Control at Concerts 1995

- 6.1.1 The introduction to the CoP states:

Large music events involving high powered amplification are held in sporting stadia, arenas, open air sites and within lightweight buildings. These events give pleasure to hundreds and in some cases thousands of people. However, the music from these events can cause disturbance to those living in the vicinity. The purpose of this code is to give guidance on how such disturbance or annoyance can be minimised.

- 6.1.2 This is an important factor as the CoP predates the introduction of the Licensing Act 2003 where the relevant objective to noise, is the promotion of the prevention of public nuisance. It has therefore been argued that the threshold described in the CoP of “*minimising disturbance or annoyance*” is at a lower threshold than that the Licensing Act 2003 requires.
- 6.1.3 The Code of Practice first published in 1995, addresses environmental noise control at concerts and similar large music events involving high powered amplification when held in

sporting stadia, arenas, open air sites and within lightweight buildings. Various guidelines and criteria are described. For events held between 0900 and 2300 the Music Noise Level (MNL) when assessed at the prediction stage or measured during sound checks or concerts should not exceed the levels detailed in Table 2 below;

Table 2. Code of Practice Guideline Values

Concert days per Year	Venue Category	Guideline
1 to 3	Urban Stadia & Arenas	The MNL should not exceed 75dB(A) over a 15minute period
1 to 3	Other Urban & Rural Venues	The MNL should not exceed 65dB(A) over a 15minute period
4 to 12	All Venues	The MNL should not exceed the background noise level by more than 15dB(A) over a 15 min period

The Music Noise Level (MNL) value is the LAEQ,15minute, due to music measured at a distance of 1 meter from the facade of any noise sensitive premises

6.2 Low Frequency Noise Criteria

6.2.1 The above 1995 CoP does not specify limits for low frequencies although there is a footnote with some helpful guidance. Whilst this is only a footnote, there have been an increasing number of council’s who have adopted these low frequency limits.

6.2.2 The conclusions of the research² behind the footnote state that:-

- *At open air venues, the increase over background ‘A’ weighted criterion works well at minimizing complaints near to a venue.*
- *The ‘A’ weighted criterion can underestimate annoyance at greater distances from the venue (in excess of 2km) as the mid to high frequency energy is quickly attenuated with respect to low frequency and the expectation of people living some distance from the event being that the concert should be inaudible.*
- *Sound pressure levels in excess of 80dB in the 63Hz or the 125 Hz octave bands recorded in excess of 2km from the concert, are likely to give rise to complaints of low frequency noise. Levels below 70dB are likely to be acceptable.*

6.2.3 The effect of imposing a 70dB limit in 63Hz and 125Hz bands is often unachievable and if enforced would prevent concerts from taking place. Notwithstanding this, it maybe useful in certain circumstances to set an maximum external low frequency level in order to control some of the more excessive effects of certain types of dance music, which can contain higher low frequency levels and can controlled by setting L_{Ceq,T} limits up to 90dB(C) or similar levels within individual octave or third octave bands .

² J E T Griffiths, J G Staunton & S S Kamtha, A study of low frequency sound from pop concerts. Proceedings of the Institute of Acoustics, Vol 15, Part 7, 1993.

6.3 Research

6.4 Attitudes towards Environmental Noise from Concerts –NANR 292

6.4.1 The Department of Food and Rural affairs (DEFRA) sponsored research undertaken by Ipsos Mori and Edinburgh Napier University's, Building Performance Centre to carry out a social study of attitudes to music noise of those residing in the vicinity and those attending concerts. The study was based around 10 concert events held across the UK between May and September 2010. To complement the social study Defra let a secondary contract (NANR 297) to undertake noise monitoring at the events where the social studies were to be undertaken. The objective of the studies was to undertake.

1. A social survey with attendees of events and local residents to provide an evidence base regarding the attitudes to noise from concerts.
2. Assessments to monitor Music Noise Levels (MNL) in the social survey areas.
3. Analyse the survey responses against the Music Noise Levels to establish a Dose Response Relationship
4. Produce any recommendations for future guidance on the management of environmental noise control at concerts.

6.4.2 Outcomes

- Urban events with approximately 100dBA mixing desk levels tend to give approximately 10% population annoyance within 1km and under 1 % complaints.
- It is considered that there was no need to treat urban 'stadiums' differently from urban 'parks' as the existing CoP currently details.
- Dose response suggests around 4% annoyance at 40dBA rising to 33% at 70dBA for 'urban' venues. The response rate still needs to be tested for rural events.
- Audience satisfaction drops as level approaches ~90 dBA.
- Prior notification can significantly reduce annoyance levels.
- Majority of people support up to 5 events, 43 % support up to 12 events.
- Other aspects such impact from traffic and parking rated as high as noise issues by residents

6.5 World Health Organisation (WHO) Community Noise Guidelines 1999

6.5.1 The WHO guideline values for community noise, which include entertainment noise, 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. The

guidelines have recently been updated (October 2018) but still references some of the guidelines levels in the 1999 document. Although they are mainly considered for use with transportation noise sources such as road, rail and aircraft, they are useful in providing some guidance on negative sleep effects.

6.5.2 They state that if negative effects on sleep are to be avoided the Leq,8hr should not exceed 30dB(A) for continuous noise. Sound reduction of a partially open window from outside to inside is considered to be 15dB(A).

6.6 Comparison with Other Urban Park Locations

6.6.1 Table 3 below details the permitted noise control limits at other urban park venue. It can be seen that several urban park venues operate with music noise limits up to 75dB(A) with some parks imposing a low frequency noise limit of up to 90dB(C) and others not imposing any low frequency noise limit.

Table 3. Music Noise Limits at Other Urban Park Locations

Venue	Premises Licence Music Noise Condition	Low Frequency Music Noise Limits
Hyde Park (London)	75dB LAeq,5minutes 1m from the facade of any noise sensitive premises.	Additional Low Frequency and other conditions applied.
Victoria Park (London)	75dB LAeq,5minutes 1m from the facade of any noise sensitive premises.	Low frequency music noise limit was removed as a PL condition
Heaton Park (Manchester)	75dB LAeq,15minutes at designated locations	No low frequency limit
Queen Elizabeth Park (London)	75dB LAeq,15minutes at designated locations	No low frequency limit
Clapham Common (London)	75dB LAeq,15minutes at designated locations .	90dB LCeq,15minutes
Central East Park	75dB LAeq,15minutes 1m from the facade of any noise sensitive premises.	No known
Blackheath Common (London)	75dB LAeq, 15minutes 1m from the facade of any noise sensitive premises.	90dB LCeq,15minutes
Brockwell Park	75dB LAeq, 15minutes 1m from the facade of any noise sensitive premises	90dB LCeq,15minutes

Venue	Premises Licence Music Noise Condition	Low Frequency Music Noise Limits
Finsbury Park	75dB LAeq, 15minutes 1m from the facade of any noise sensitive premises	85dB in one third octave bands from 40Hertz to 125Hertz (equates to 90dB in the 63Hertz and 125 octave bands)

6.7 Comparison with Other Post 23:00 Events

6.7.1 Table 4 below details the permitted noise control limits at events where music noise is permitted post 23:00. It can be seen that events operate with music noise limits up to 45dB(A) and a low frequency noise limit of up to 65dB(C).

Table 4. Post 23:00 Music Noise Limits at Other UK Events

Event	Regulated Entertainment	Music Noise Limits Post 23.00
Lost Village	Up to 2am	45dB LAeq,15min. 65dB Leq in 63Hertz and 125 Hertz Octave bands
Boardmasters, Cornwall	Up to 2am	45dB LAeq,15min up to 00:45, inaudible from 00:45 to 02:00
Kendal Calling Cumbria	Up to 3am	45dB LAeq,5min
Bludot Festival, Jodrell Bank, Cheshire	Up to 2am	45dB LAeq,15min & 65dB LCeq,15min
YNot Festival Derbyshire Dales	Up to 2am	45dB LAeq,15min

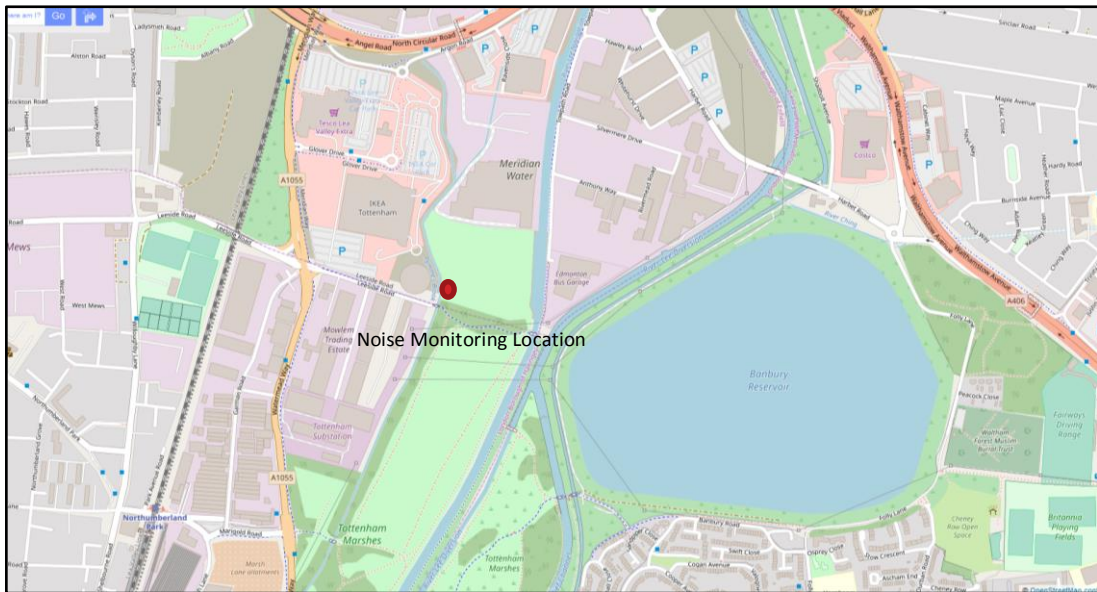
7. LOCAL AUTHORITY REQUIREMENTS

7.1.1 Preliminary discussions with Mr. Ned Johnson, Principal Officer Pollution Control at the London Borough of Enfield has indicated that the council will apply the guidelines in Code of Practice on Environmental Noise Control at Concerts 1995 produced by the Noise Council and known as the PoP Code and other relevant guidance for noise control post 23:00.

8. AMBIENT NOISE SURVEY

8.1.1 In order to assist in establishing appropriate night time music noise limits, a noise survey was carried from 10:18 on Saturday 27th October to 13:04 on Monday 29th October. The noise monitor was located on an area of unoccupied land close to Leaside Road and identified in Figure 3 below. This area was chosen for security reason and enabled continuous monitoring throughout a weekend period and is considered to provide a reasonable indicator of ambient and noise levels within the vicinity of the site.

Figure 3. Noise Monitoring Location



8.1.2 The sound level meter were set to record all broadband and statistical A weighted and octave band sound pressure levels including L90 and Leq. Measurements were simultaneously made of 1 minute and 15minute time intervals . Measurements were obtained using the following instrumentation complying with the Type 1 specification of IEC 60651, IEC 61260 and IEC 61672;

- Brüel and Kjaer 2250 Integrated SLM Serial Nos 3010392
- Brüel and Kjaer 4231 Field Calibrator 3001533

8.1.3 The equipment was calibrated using a B&K 4231 field calibrator both before and after the survey and no significant drift was observed. Full calibration certificates are available upon request. Measurements were supplemented with timed and triggered audio recordings to enable post measurement analysis.

8.1.4 Post measurement analysis of the periodic audio recordings indicated that the acoustic environment is dominated by road tariff noise from the A406 North Circular Road.

8.1.5 Tables 5 and 6 below presents the summary of the results for the monitoring period.

Table 5. Summary Table of LAeq min & LCeq,15min Measurement Results (12:00-23:00)

Festival Day LAeq,15min Range	Festival Day Modal LAeq,15min dB(A)	Festival Day LCeq,15min Range	Festival Day Modal LCeq,15min
54-57	56	61-69	63

Table 6. Summary Table of LAeq min & LCEq,15min Measurement Results (23:00-04:00)

Festival Night LAeq,15min Range	Festival Night Modal LAeq,15min dB(A)	Festival Night LCEq,15min Range	Festival Night Modal LCEq,15min
51-56	54	59-65	59

9. RATIONALE FOR PROPOSED MUSIC NOISE LIMITS

9.1.1 The proposed music noise limits broadly align with the national Code of Practice on Environmental Noise Control at Concerts 1995. It can be argued that, as the guidelines were produced before the introduction of the Licensing Act 2003 and have been designed to “minimise disturbance” this is a lower threshold than required than required by the Act , which requires the prevention of public nuisance.

9.1.2 For a public nuisance to exist the noise nuisance must be both excessive and unreasonable and more than just mere annoyance. The determination takes into account a number of factors or objectives tests which include:

- The absolute level of noise and its characteristics
- The duration and frequency of its occurrence
- The time of the noise (day or night)
- The characteristics of the neighbourhood
- The nature of the care activity is carried out
- Where the noise takes place and is experienced

9.1.3 The number of people affected – this factor is especially pertinent, because for a public nuisance to exist it must affect a number of persons within a community or neighbourhood who suffer to an unreasonable extent from noise emanating from the licensed site.

9.1.4 Regarding night-time music noise levels, the CoP recommends inaudibility internally. Case law has determined that inaudibility is not a condition which is compatible with the Licensing Act 2003 requirements, as it would be imprecise, unreasonable and disproportionate with the Act’s objectives.

9.1.5 Therefore a limit has been designed that is below the permitted level defined within Noise Act 1996 i.e

- NA96 Permitted Level = 34dB LAeq,5minutes, measured internally with windows closed.

- This approximates to 49dB LAeq,5minutes externally (applying 15dB window attenuation as per BS8233:2014) and 59-64dB (windows closed 25-30dB attenuation)

9.1.6 The proposed limit for Field Day is 45dB LAeq,15minute (30dB(A) internally, windows partially open) therefore the night-time requirements are more stringent than those applied by the Noise Act 1996 and therefore considered to align with the requirements of the Licensing Act’s objectives.

9.1.7 The research that informed the Noise Act 1996 indicated that at lower levels the A weighted Leq,T metric provided the best indicator of community annoyance. However a low frequency limit has also been applied in order to take account of some of the problems associated with modern music and the “repetitive dance beat” which anecdotally can cause annoyance.

9.1.8 The night time limit also aligns with the World Health Organisation (WHO) Community noise guidelines of 30dB LAeq,T internally (allowing for 15dB partially open window attenuation

9.1.9 Comparison with the limits imposed at other similar rural festival within the UK indicate that the requirements at least comparable to and in many cases more stringent than several others, with many festival not requiring any low frequency control limits for either day or night.

9.1.10 It is therefore consider that the rationale for the music noise limits is justified and aligns with national and international guidance and standards and the music noise limits are set at appropriate levels in accordance with the requirements of the Licensing Act 2003

9.1.11 Proposed limits are detailed in Tables 7 and 8 below.

Table 7. Pre 23.00 Proposed Music Noise Limits

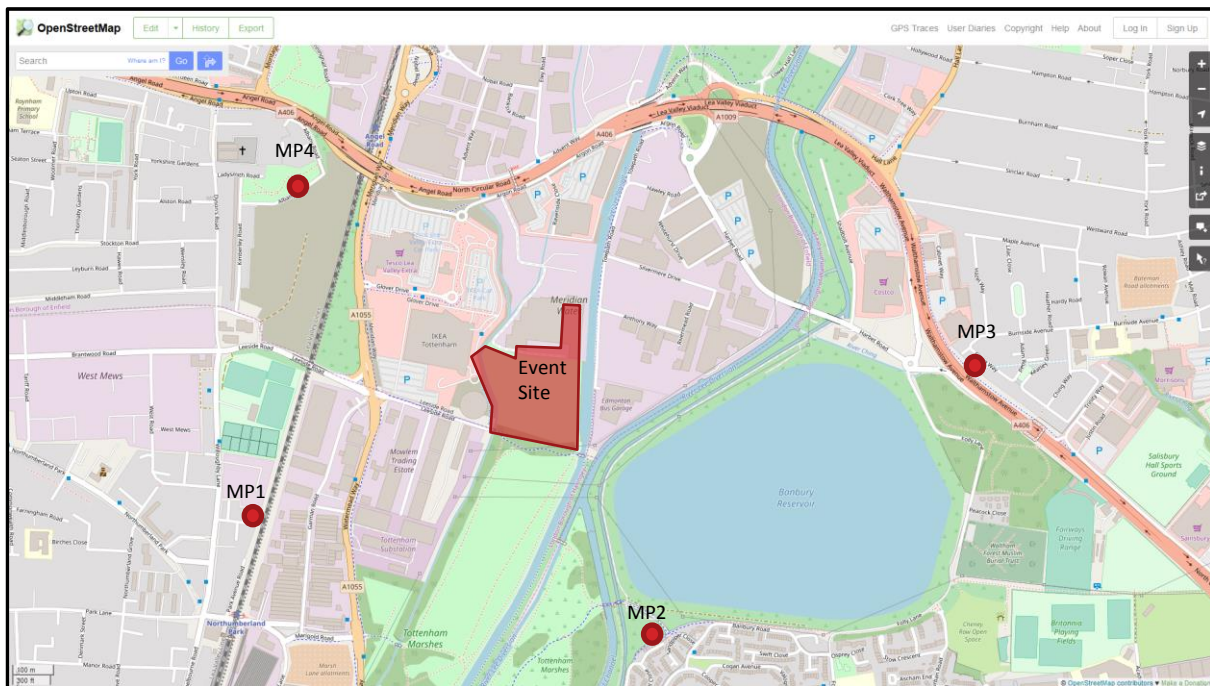
Location	Music Noise Limit dB LAeq,15min	Music Noise Limit dB LCEq,15min
MP1 – Heybourne Rd	75	90
MP2 – Waterhall Close	75	90
MP3 – Ching Way	75	90
MP4 – Albany Rd	75	90

Table 8. Post 23:00 Music Noise Limits

Location	Music Noise Limit dB LAeq,15min	Music Noise Limit dB LCEq,15min
MP1 – Heybourne Rd	45	65
MP2 – Waterhall Close	45	65
MP3- Ching Way	45	65
MP4 – Albany Rd	45	65

9.1.12 A map with the monitoring locations is presented in Figure 4 below.

Figure 4. Proposed Noise Monitoring Locations



9.2 Music Noise Predictions

9.2.1 In order to determine the sound propagation characteristics between the proposed music stages and those living nearby who might be affected by noise, music noise propagation calculations have been carried out.

9.2.2 The following factors have been taken into account when calculating these noise levels. Table 9 below presents the results the calculations. Further calculation details is presented in Appendix B.

- Distance attenuation

- The directivity factor: A combination of the sound system design and the orientation of the stage and receptor (taken to be -20 dB at 120° to – 180°, - 10 dB at 60° – 120° ; and 0 dB at 0° – 60° from the centreline of the PA system)
- Attenuation through the fabric of the tent (taken to be 5 dB(A))
- Attenuation from Unit 5 estimated to be 25dB(A) and 16dB(C) (double skin steel profile cladding with 200mm thermal insulation)
- Attenuation from Unit 6 estimated to be 15dB(A) and 10dB(C) (single skin cement cladding with 100mm thermal insulation)
- Barrier attenuation from buildings, site structures and topography taken to be of 5dB (partial line of sight and 10dB no line of sight)
- Front of house levels at stages (taken to from typical level at Field Day 2017).
- No ground attenuation included.

Table 9. Predicted Day Time Music Noise Levels at Monitoring Locations

Location	Predicted MNL dB LAeq,T	Predicted MNL dB LCEq,T
MP1 – Heybourne Rd	61	74
MP2 – Waterhall Close	73	82
MP3- Ching Way	69	82
MP4- Albany Rd	50	68

9.2.3 Post 23:00 Predictions are presented in Table 10 below and represent music noise from Stage 2 only.

Table 10. Predicted Night Time Music Noise Levels at Monitoring Locations

Location	Predicted MNL dB LAeq,T	Predicted MNL dB LCEq,T
MP1 – Heybourne Rd	35	59
MP2 – Waterhall Close	41	60
MP3- Ching Way	24	48
MP4 – Albany Rd	17	41

10. SOUND TESTING

10.1.1 Sound testing for Stage 2 was undertaken on Wednesday 7th November 2018. A Funktion One F121 sound system was installed in the warehouse which provided sufficient sound power to acoustically excite the entire event space. A representative music track (Howling by Frank Weidemann (Ame Remix), which provided suitable dynamic and spectral range including female vocal content, was then played on a loop at event levels and simultaneously measured at external monitoring and proxy locations. Audio recordings were undertaken to enable post measurement analysis.

10.1.2 The results from the monitoring are summarised in Tables 11 and 12 below. Location MP3 and MP4 were not included as noise levels from the A406 North Circular was considered to be significantly above any potential music noise emissions from the Stage 2 location that would be audible at these locations.

Figure 5. Sound Test Monitoring Locations



Table 11. Sound Test Results – All doors closed

Location	Representative LAeq,T	Representative LCEq,T	Observations
Internal FOH Position	104	116	Music level above those proposed to ensure audibility at proxy position
Proxy 1(end of field 230m)	55	77	Music noise audible, bass and female vocal distinct, distant traffic noise also clearly audible. contribution from wind noise
MP1 – Heybourne Rd	54	66	Music noise completely inaudible. Periodic train pass increase LAeq,1min to 68dB. Local and distant traffic noise dominant along with some commercial noise from industrial estate and wind in trees. Strong wind gusts
MP2 – Waterhall Close	48	62	Music noise completely inaudible. Distant traffic noise dominant and wind in trees. Strong wind gusts
Proxy 2(front of building@ 70m)	68	89	Music noise clearly audible bass and female vocal distinct above ambient noise.
Canal Boats	60	76	Music noise audible, bass and female vocal more distinct, distant traffic noise also clearly audible contribution from wind noise

Table 12. Sound Test Results – Fire Doors Open

Location	Representative LAeq,T	Representative LCEq,T	Observations
Internal FOH Position	103	116	Music level above those proposed to ensure audibility at proxy position
Proxy 1(end of field 230m)	54	76	Music noise audible, bass and female vocal distinct, distant traffic noise also clearly audible. contribution from wind noise.
MP1 – Heybourne Rd	54	66	Music noise completely inaudible. Periodic train pass increase LAeq,1min to 68dB. Local and distant traffic noise dominant along with some commercial noise from industrial estate and wind in trees. Strong wind gusts
MP2 – Waterhall Close	48	63	Music noise periodically very faintly audible. Distant traffic noise dominant and wind in trees. Strong wind gusts
Canal Boats	62	80	Music noise clearly audible, bass and female vocal more distinct, distant traffic noise also clearly audible contribution from wind noise

Table 13. Sound Test – Post 23:00 FOH Levels

Location	Representative LAeq,T	Representative LCeq,T	Observations
Internal FOH Position	97	109	Post 23:00 Proposed Levels
Proxy 1(end of field)	52	71	Music noise just audible, distant traffic noise dominant.
Canal Boats	53	71	Music noise audible, distant traffic noise dominant

10.1.3 The results from the noise test indicate that the unit 5 building structure offers a reasonable level of sound insulation and that internal levels of up to 102dB(A) and 115dB(C) during the day will result in offsite levels below the proposed music noise limits and at or below typical ambient noise levels at offsite monitoring locations.

10.1.4 Post 23:00 internal levels of 97 to 99dB(A) and 108 to 110dB(C) during the night will result in offsite levels below the music noise limits at the proposed monitoring locations and at or below typical ambient noise levels at offsite monitoring locations, subject to doors remaining closed during this period.

10.1.5 It is considered that the outcome of the sound test confirms that the the proposed internal music noise levels for Stage 2 are appropriate for the promotion of the public nuisance objective under the Licensing Act 2003 whilst still providing good audience experience levels.

11. SOUND CONTROL PROCEDURES

11.1.1 In order to ensure that LA03 requirements are promoted and upheld, the following noise control procedures, that have been successfully used by TSA at other similar events, will be implemented at Field Day Festival 2019. It is anticipated, as normally occurs, that the consultants carrying out the sound control program will work closely with the Environmental Health Officers from LB Enfield. A brief outline of the procedures are provided below.

11.2 Organisational Controls

11.2.1 Three Spires will work closely with both the sound system engineers and event management staff at Ground Control as well as liaising directly with LB Enfield, Environmental Health and Licensing Officers as required.

11.2.2 Up to five members of staff will be available throughout the festival, with a dedicated member of staff appointed to respond to community communications/complaint visits. There will be a permanently attended central control point which oversees on and offsite monitoring and organise attendance at stages locations to ensure compliance with agreed on site limits. Permanent and rotational noise monitoring will be undertaken at agreed offsite representative community receptor locations with the local authority. We will

provide a live Google Map of all noise complaints to assist with identification of potential hot spots which will help facilitate focused intervention as required.

Lead Consultant: Chris Hurst Tel: 07939324063 email: chris@threespiresacoustics.co.uk

A Schematic of the communication and noise control process is presented in Figure 6 below.

Figure 6. Schematic of Communication and Noise Control Process



11.3 Pre-Event Information

11.3.1 We have been informed by the client that the following pre-event procedures will be in place:

11.3.2 The Event Manager/Production Manager will ensure that any visiting contractors and/or PA companies are advised of the noise constraints which relate to the site and details of this will also be contained within any contract documentation.

11.3.3 It is understood that residents will be informed of a contact telephone number (that will be attended by event management staff throughout the event) to enable them to register a

comment/complaint with respect to noise. Residential properties shall be contacted and will be advised of:

- The times of the concerts
- Any sound check or rehearsal times
- A telephone number to contact in the event of a comment/complaint

Liaison will take place with the Local Authority’s Licensing and Environmental Health Departments to agree aspects such as sound propagation test times, complaint logging and assessment and contact protocols.

A copy of the complaint log is presented in Appendix B.

11.4 Sound System Design

11.4.1 The sound system provider has yet to be appointed, however it is anticipated that they will use the Martin Audio award-winning Multi-cellular Loudspeaker Array [MLA] technology or equivalent for the Main Stage. Such systems has proven to work well at other London urban park locations such as Hyde Park and Clapham Common and enable the suppression of noise pollution by providing a sound coverage for the audience whilst applying unprecedented control for noise spillage and pollution.

11.4.2 A cardioid arrangement of the sub base array will be deployed to assist in the reduction of low frequency noise on all stages. The cardioid arrangement uses noise cancellation techniques to produce a heart-shaped coverage pattern in which levels are louder to the front of it and lower behind it which assist with low frequency noise breakout out and prediction.

11.5 Music Noise Limit Monitoring

11.5.1 Music noise limits and monitoring locations are detailed in Table 8 and 9. We have proposed that at least one location will have permanent web enabled connectivity, other locations will be visited on a rotational basis, we will seek agreement with the Local Authority regarding these. Other locations which are the subject of a noise complaint or requested by the Local Authority Environmental Health Department will be assessed and visited where practicable.

11.6 Sound Propagation and Pre-Event Tests

11.6.1 Sound propagation tests will be carried out before the start of the festival, on the afternoon of Thursday 7th June. These involve playing pre-recorded music through the sound systems and measuring sound levels simultaneously at the FOH positions within the site and at the specified monitoring locations. The sound system can then be fine-tuned by using the PA characteristics and Digital Signal Processing, such that the maximum attenuation can be achieved from inside to outside the site and a maximum level can also be set at the mixer positions in order that Premise Licence conditions can be complied with. Sound testing will be restricted outside of the hours of 10:00 and 20:00 on Thursday 7th June.

11.7 Sound Monitoring Control

11.7.1 A wireless network link is to be established with sound measuring equipment both inside and outside the festival site. The music sound levels at all the mixing desk positions and the offsite positions will be continually monitored in terms of 15 minute and 1 minute LAeq , LCeq. This information will be relayed to the central control point. This point will be permanently monitored by a consultant/engineer and will enable real time music levels to be viewed via a laptop computer. Should the offsite monitoring levels reach a critical level it will be possible to view the relevant onsite FOH levels and judge whether a particular stage has caused the exceedance or whether this may be due to other extraneous environmental factors. Where necessary an intervention can then be made via the central control point to the sound engineer to reduce the onsite levels at the relevant mixer stage positions

11.8 Community Engagement

11.8.1 Should complaints of music noise arise during the event, the details will be logged by the onsite Production Management Team and passed onto the Three Spires consultants who will assess the music noise level at the closest permanent external monitor with the location details of the complaint. This will assist in building up a geographical picture of complaints. Where a resident wishes for a consultant to visit, this will be undertaken (wherever practicable) and location measurements recorded. Where an intervention will be necessary to ensure MNL's are compliant, instruction will be conveyed by two-way radio communication with the central control point, with intervention instructions then relayed to the relevant sound engineer. A complaint log will be forwarded to the Licensing Authority within 5 days of the event finishing.

11.9 Compliance Monitoring

11.9.1 A compliance report will be issued to the Licensing Authority within 14 days of the event finishing which will detail the measurement results from all locations and complaint response visit information.

11.10 Other Sources of Noise

11.10.1 Site generators will be located in a position to minimise the noise impact within the perimeter of the site boundary. Acoustic Screens will be used where required.

11.10.2 The events management team will inform all concession stalls holders and fairground ride operatives of the noise constraints that are required and will be periodically monitored by the TSA and action taken via the event management team if necessary.

11.10.3 During load in and load out of production equipment care should be taken if working outside normal working hours to limit any unnecessary noise and limit potential noise impacts on any noise sensitive receptors in the vicinity of the site.

11.10.4 During the site build, steel works will be restricted between 08.00 to 20.00 hours

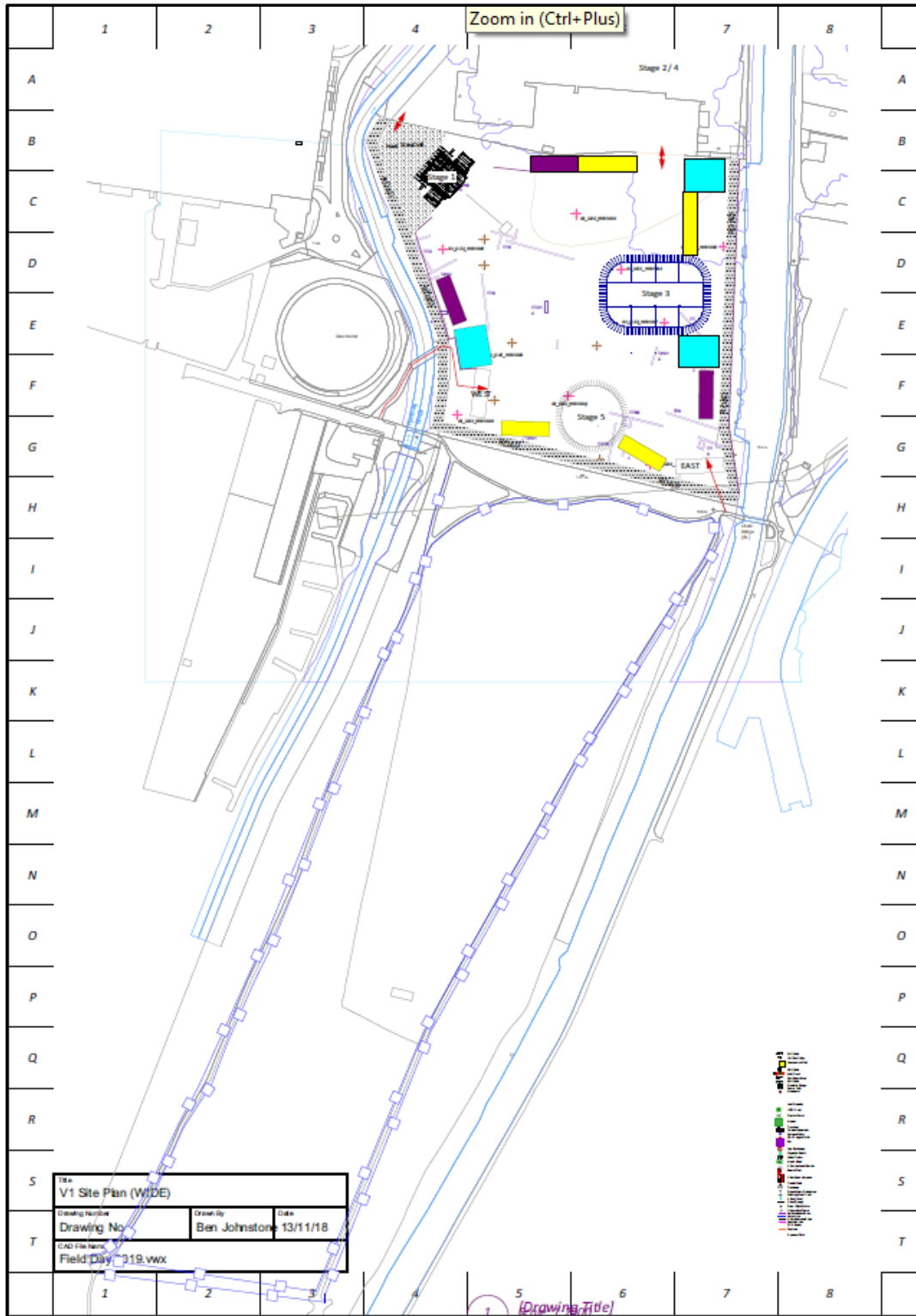
12. CONCLUSION

- 12.1.1 It is considered that the rationale for the music noise limits is justified and aligns with national and international guidance and standards and the music noise limits are set at appropriate levels in accordance with the requirements of the Licensing Act 2003 to promote the prevention of public nuisance.
- 12.1.2 Noise predictions and sound testing have been undertaken which confirm that the venue is a viable location for the proposed event.
- 12.1.3 From my experience at many other outdoor concerts and festivals throughout the UK, I consider that the proposed music noise limits are at least equivalent to and in many cases, more comprehensive than other similar festival premises licence conditions.
- 12.1.4 A comprehensive noise management system, including sound system design, monitoring and community engagement will be in place to promote the LA03 objective and the licence holder and promoters are committed to a continual improvement strategy.

It is therefore considered that the Noise Management Plan adequately demonstrates that the event will promote the Licensing Act 2003 objective of the prevention of public nuisance and therefore, from a noise control perspective, can be granted a Premises Licence.

Appendix A: Site Plan

FIELD DAY FESTIVAL 2019 – Noise Management Plan



Appendix B Results

Table 14. MNL LAeq,T Predictions All Stages Day

Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP1 – Heybourne Rd	Main	680	45	24	10	0	10	102	58
	Stage 2	879	35	28	0	25	10	102	39
	Stage 3	829	30	29	0	5	10	100	56
	Stage 4	869	30	29	0	15	10	98	44
	Stage 5	644	15	33	20	5	10	98	30
	Stage 6	782	15	34	0	5	10	98	49
									Combined LAeq
MP2 WaterHall Close	Main	768	45	25	0	0	5	102	72
	Stage 2	772	35	27	0	25	5	102	45
	Stage 3	662	30	27	0	5	5	100	63
	Stage 4	703	30	27	0	15	10	98	46
	Stage 5	634	15	33	10	5	5	98	45
	Stage 6	546	15	31	20	5	5	98	37
									Combined LAeq
MP3 Ching Way	Main	1115	45	28	0	0	5	102	69
	Stage 2	962	35	29	10	25	10	102	28
	Stage 3	969	30	30	10	5	10	100	45
	Stage 4	960	30	30	10	15	10	98	33
	Stage 5	1113	15	37	0	5	10	98	46
	Stage 6	983	15	36	20	5	5	98	32
									Combined LAeq
MP4 Albany Rd	Main	645	45	23	20	0	10	102	49
	Stage 2	670	35	26	20	25	10	102	21
	Stage 3	780	30	28	20	5	10	100	37
	Stage 4	750	30	28	20	15	10	98	25
	Stage 5	750	15	34	20	5	10	98	29
	Stage 6	840	15	35	10	5	5	98	43
									Combined LAeq

Table 15. MNL L_{Ceq,T} Predictions All Stages Day

Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	L _{Ceq}	Level at NSR
MP1 – Heybourne Rd	Main	680	45	24	10	0	10	115		71
	Stage 2	879	35	28	0	16	10	115		61
	Stage 3	829	30	29	0	2	10	110		69
	Stage 4	869	30	29	0	8	10	110		63
	Stage 5	644	15	33	20	2	10	110		45
	Stage 6	782	15	34	0	2	10	110		64
								Combined L_{Ceq}		74
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	L _{Ceq}	Level at NSR
MP2 WaterHall Close	Main	768	45	25	0	0	10	115		80
	Stage 2	772	35	27	0	16	5	115		67
	Stage 3	662	30	27	0	2	5	110		76
	Stage 4	703	30	27	0	8	10	110		65
	Stage 5	634	15	33	10	2	5	110		60
	Stage 6	546	15	31	20	2	5	110		52
								Combined L_{Ceq}		82
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	L _{Ceq}	Level at NSR
MP3 Ching Way	Main	1115	45	28	0	0	5	115		82
	Stage 2	962	35	29	10	16	10	115		50
	Stage 3	969	30	30	10	2	10	110		58
	Stage 4	960	30	30	10	8	10	110		52
	Stage 5	1113	15	37	0	2	10	110		61
	Stage 6	983	15	36	20	2	5	110		47
								Combined L_{Ceq}		82
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	L _{Ceq}	Level at NSR
MP4 Albany Rd	Main	645	45	23	20	0	5	115		67
	Stage 2	670	35	26	20	16	10	115		43
	Stage 3	780	30	28	20	2	10	110		50
	Stage 4	750	30	28	20	8	10	110		44
	Stage 5	750	15	34	20	2	10	110		44
	Stage 6	840	15	35	10	2	5	110		58
								Combined L_{Ceq}		68

Table 16. MNL LAeq,T Predictions Stage 2 Night

Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP1 – Heybourne Rd	Stage 2	879	35	28	0	25	10	98	35
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP2 WaterHall Close	Stage 2	772	35	27	0	25	5	98	41
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP3 Ching Way	Stage 2	962	35	29	10	25	10	98	24
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP34 Albany Rdy	Stage 2	670	35	26	20	25	10	98	17

Table 17. MNL LCeq,T Predictions Stage 2 Night

Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP1 – Heybourne Rd	Stage 2	879	35	28	0	16	5	108	59
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP2 WaterHall Close	Stage 2	772	35	27	0	16	5	108	60
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP3 Ching Way	Stage 2	962	35	29	10	16	5	108	48
Receptor	Stages	Distance	FOH	Distance Correction	Directivity	Attenuation from Structure	Barrier Attenuation	FOH Level	Level at NSR
MP4 Albany Rd	Stage 2	670	35	26	20	16	5	108	41

Appendix C: Comment /Complaint Form

Field Day Festival 2019	Noise Complaint/Comment
Date and Time Complaint Received	
Name of Complainant	
Address of Complainant	
Telephone number and email of complainant	
Location of noise disturbance (address)	
Time disturbance noted	
Nature of complaint(Vocal, Bass, Music in General- Inside or outside)	
Additional Comment	
Visit Requested	
Action Taken	

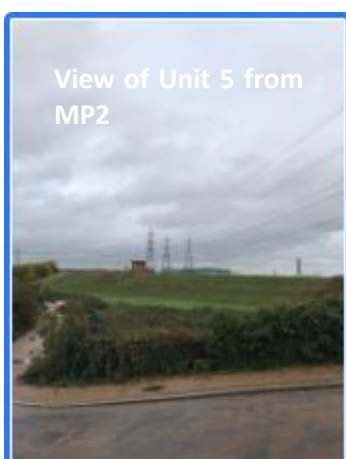
Appendix D: Photographs

Front of Unit 5



Rear of Unit 5





Appendix E: Glossary of Terms

Noise

Noise is defined as sound unwanted at the point of reception. The range of audible sound is from 0 dB to 140 dB. The frequency response of the ear is usually taken to be about 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dB(A) weighting. This is an internationally accepted standard for noise measurements. For variable noise sources such as traffic, a difference of 3 dB(A) is just distinguishable. In addition, a doubling of a noise source would increase the overall noise by 3 dB(A). For example, if one item of machinery results in noise levels of 30 dB(A) at 10 m, then two identical items of machinery adjacent to one another would result in noise levels of 33 dB(A) at 10 m. The 'loudness' of a noise is a purely subjective parameter but it is generally accepted that an increase/decrease of 10 dB(A) corresponds to a doubling/halving in perceived loudness. External noise levels are rarely steady but rise and fall according to activities within an area. In an attempt to produce a figure that relates this variable noise level to subjective response, a number of noise indices have been developed. These include:

- **L_{Amax}** noise level: This is the maximum noise level recorded over the measurement period.
- **L_{Aeq}** noise level: This is the 'equivalent continuous A-weighted sound pressure level, in decibels' and is defined in British Standard 7445 (BS 7445) [] as the 'value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval, T, has the same mean square sound pressure as a sound under consideration whose level varies with time'. It is a unit commonly used to describe construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise. It is also the unit best suited to assessing community response.
- **Music Noise Level (MNL)** : the L_{Aeq} of music noise measured at a particular location.
- **L_{A90}** noise level: This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during quieter periods. It is often referred to as the background noise level and is used in the assessment of disturbance from industrial noise.
- **Hz (Hertz)**: The tonal quality of a sound is described and measured in terms of the frequency content and is commonly expressed as octave or third octave bands, the latter being the division of the octave bands into three for finer analysis, across the frequency spectrum. The smaller the octave band or third octave band centre frequency number defined in terms of Hz, the lower the sound. For example 63 Hz is lower than 500 Hz and is perceived as a deeper sound. The attenuation due to air absorption and natural barriers increases with frequency i.e. low frequencies are always the most difficult to control

An indication of noise levels and pitches is provided in Appendix A1.1 of *Building Bulletin 93 'Acoustic Design of Schools: A Design Guide', 2003 (BB 93)*.

Typical sound pressure levels

